



Fundamentals of Agricultural Extension Education



DEPARTMENT OF EXTENSION EDUCATION

Jawaharlal Nehru Krishi Vishwa Vidyalaya

Jabalpur (M.P.)-482004.

Fundamentals of Agricultural Extension Education



**Department of Extension Education
Jawaharlal Nehru Krishi Vishwa Vidyalaya
Krishi Nagar, Adhartal,
Jabalpur- 482004 (M.P.)**

Publication No. : DFA/JNKVV/Text Book/2021/21

Compiled by:

Ms. Aparna Jaiswal and Dr. Surendra Rai, Assistant Professor, JNKVV College of Agriculture, Waraseoni, Balaghat, MP

Dr. N.K. Khare, Professor & Head, Department of Extension Education,
Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP

Edited by:

Dr. (Smt) Seema Naberia

Dr. (Smt) Kamini Bisht

Ms. Chandrika Sharma

Department of Extension Education

College of Agriculture, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP

Published by:

Department of Extension Education, Jawaharlal Nehru Krishi Vishwa Vidyalaya,
Adhartal, Jabalpur- 482004, MP, India

Printed by:

Communication Centre

JNKVV, Jabalpur



Jawaharlal Nehru Krishi Vishwa Vidyalya

Krishi Nagar, Adhartal, Jabalpur - 482 004 (M.P.)

Dr. Pradeep Kumar Bisen
Vice-Chancellor

Ph.: 0761-2681706 (O), **Fax:** 0761-2681389

E-mail: bisenvcjnkvv@gmail.com

FOREWORD

Extension Education is one of the prominent branches of agriculture has expanded rapidly during the last two decades and has assumed new dimensions with respect to its different disciplines. It is a significant social innovation, an important force in agricultural change. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines.

I am pleased to know that a textbook '**Fundamentals of Agricultural Extension Education**' has compiled for the students who have just encountered with the basic course. It is really an introduction for beginners dealing with the concepts of extension education. The textbook helps the undergraduate students to have thorough understanding of different concepts, methodologies and approaches.

I hope this book will be helpful in preliminary understanding of this subject. I am sure the direction given in book provides assistance in dealing with the extension situations.

My congratulations to the editors and authors for their commendable efforts, ideas and thoughts to frame this book with such flair.

(P.K. Bisen)



Jawaharlal Nehru Krishi Vishwa Vidyalya
Krishi Nagar, Adhartal, Jabalpur - 482 004 (M.P.)

PREFACE

Teaching is the process of attending to people's needs, experiences, feelings, and intervening so that they learn particular things, and go beyond the given. The teachers have adopted many teaching strategies to make better comprehension of the fundamental courses, especially among the undergraduate students. It will construct strong pillar in the academic life of the students. It has realized that conceptual knowledge of basics is very important to the students for acquaintance of the course. Keeping these things in mind the textbook '**Fundamentals of Agricultural Extension Education**' has designed.

I applaud the publication and hope it will serve as milestone to increase the competency and expertise of the students. I wish the content of this book would provide the multiplier effect in learning and understanding the basics of Agricultural Extension.

(Dhirendra Khare)



Jawaharlal Nehru Krishi Vishwa Vidyalya

Krishi Nagar, Adhartal, Jabalpur - 482 004 (M.P.)

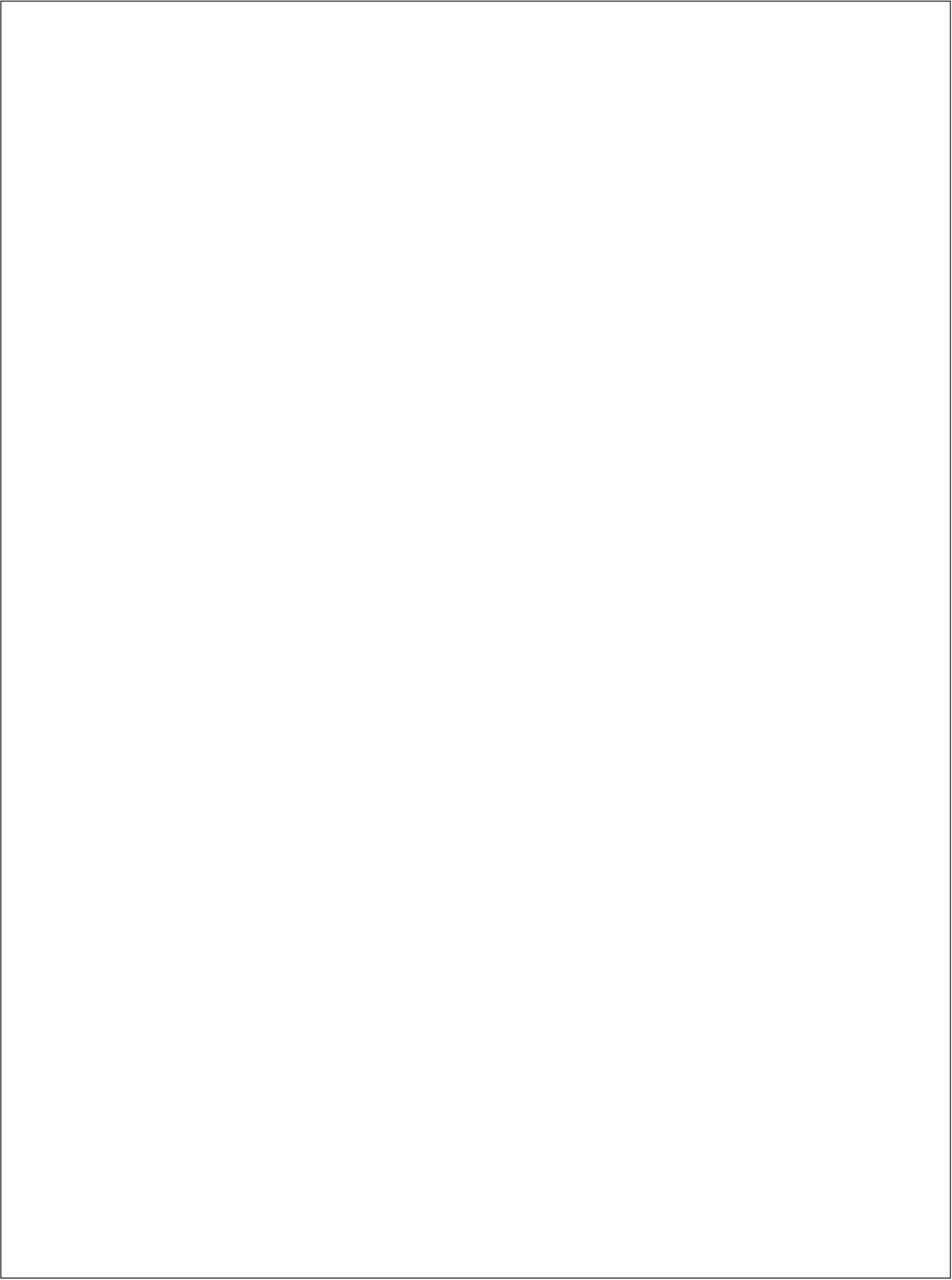
PREAMBLE

The agricultural extension system worldwide has been transforming to cater the rapid changes and unprecedented challenges faced by different countries to meet the Millennium Development Goals. The agricultural extension work has a venerable, albeit largely unrecorded history and placed as milestone for rapid transformation of rural life. The book 'Fundamentals of Agricultural Extension Education' is a well-designed piece of work that involves applied aspect for undergraduate students.

This book is a result of attempts have been made to describe the various principles involved in the procedures and techniques that are involved in collecting information, rapport building and making contact with the farmers for the successful transfer of technologies.

The authors through this book gently nurse the readers with illustrative text, references and by simple examples that will enable the reader to maintain their point of interest. I congratulate the editors and authors for their sincere and untiring efforts in bringing out this important publication. I am sure this book will be very useful to all the students.

(N.K. Khare)



INDEX

S. No.	Chapter	Author	Page. No
1.	Education: Meaning, definition and types, Extension education: meaning, definition, scope and process, objectives and principles	Sonam Agrawal	1-9
2.	Extension Programme Planning: Meaning, definition, principle and steps in programme development process	Surendra Kumar Rai	10-16
3.	Extension System in India: Extension efforts in pre-independence era- Sriniketan, Marthandam , Firka Development scheme, Gurgaon experiment Post-independence era programme- Etawah pilot project, Nilokheri experiment	Sheela Raghuwanshi	17-20
4.	Various Extension / Agriculture Development Programmes Launched by ICAR / Govt. of India: IADP, IAAP, HYVP, KVK, IVLP, ORP, ND, NATP, NAIP,NAEP	Kinjulck C Singh	21-27
5.	New Trends in Agriculture - Privatization of extension Cyber extension / e-extension: -ICT and IT Market-led extension & Production-led extension Farmers-led extension Expert system	Kamini Bisht	28-39
6.	Rural Development: Concept, meaning, definition, various rural development programme launched by the government of India: IRDP, TRYSEM, JRY, SGSY, MGNREGA	S.P. Singh	40-48
7.	Community Development: Meaning, definition, concept, principles and philosophy of community development	Nahar Singh Khedkar	49-52
8.	Rural Leadership: Concept and definition, type of leadership in rural context	Arvind Saxena	53-59
9.	Extension Administration: Concept, definition, principles, functions, difference between public administration & private administration, POSDCORB Monitoring and evaluation	Parvez Rajan	60-64
10.	Transfer of Technology: Definition, concept, models (Linker, Trickle down, Farmers first model)	M.K. Dubey	65-69
11.	Capacity Building of Extension Personnel: Capacity building and training: Definition, methods of training (Group discussion, brainstorming)	Sanjay Singh	70-79

12.	Extension Teaching Methods: Meaning, classification, Individual, group and mass contact methods Media mix strategies: Traditional and modern concept of media mix strategies	Seema Naberia	80-94
13.	ICT Applications in TOT: Concept & definition, internet, www, e-mail Application of ICT in agriculture extension, (KCC, KMAS)	N.K. Khare and Seema Naberia	95-99
14.	Communication: Meaning, definition, principles and functions of communication, Models of communication (Aristotle, Berlo, Leagans models), barriers of communication	A.S. Chouhan	100-106
15.	Agriculture Journalism: Definition, principles, 5W & 1H, Writing for Booklet, Pamphlet and news stories	D.K. Jaiswal	107-110
16.	Diffusion and Adoption of Innovation: Concept, meaning and definition, difference between communication & diffusion, adoption of innovation, stages of adoption, adopter's categories, innovation-decision process	Aparna Jaiswal	111-122

Education & Extension Education

Sonam Agrawal

Assistant Professor
College of Agriculture, Powarkheda, Hoshangabad
JNKVV, Jabalpur

The word 'Extension' is derived from the Latin root 'ex' meaning 'out' and 'tensio' meaning stretching. Education is the process of facilitating learning or acquisition of knowledge, skill values and habits.

Education takes place them self as well as in front of instructor. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered education.

Definition of Education

Education is the process of developing capability of the individual so that they can adequately response to their situation. We can also define education as process of bringing desirable change into the behaviour of human being.

Webster defined Education as the process of teaching to develop the knowledge, skill, or character of the student.

Sociologist, Rodney Stark, declares that, Education is the cheapest, most rapid and most reliable path to economic advancement under present conditions,

Types of Education

There are mainly three types of education, namely, Formal, Informal and Non-formal. Each of these types is briefly described below.

(A) Formal Education

Formal education corresponds to a systematic, organized education model, structured and administered according to a given set of laws and norms, presenting a rather rigid curriculum as regards objectives, content and methodology. It is characterized by a contiguous education process named, as Sarramona1 remarks, "presential education", which necessarily involves the teacher, the students and the institution. It corresponds to the education process normally adopted by our schools and universities. It is:

- o Planned with a particular end in view.
- o Limited to a specific period.
- o Well-defined and systematic curriculum
- o Given by specially qualified teachers.

- o Includes activities outside the classroom
- o Observes strict discipline.

(B) Informal Education

Informal education is quite diverse from formal education and, particularly, from non-formal education, although in certain cases it is capable of maintaining a close relationship with both. It does not correspond to an organized and systematic view of education; informal education life long process in which person's knowledge, skill, attitude and insight from daily experiences and exposure to the endearment at home. It is:

- o Incidental and spontaneous
- o Not-pre-planned.
- o Not imparted by any specialised agency.
- o No prescribed time-table or curriculum.
- o May be negative also

(C) Non-Formal Education

It is organized and systematic education activity carried on outside the frame work of the formal system to provide selected type of learning to the particular group of population.

- o Derived from the expression formal education.
- o Outside the realm of formal education.
- o Conscious and deliberate.
- o To be organised for a homogeneous group.
- o Serving the need of the identified group.

The word 'extension' came to be used originally in USA during 1914. In other words, the word extension signifies an out of school system of education. Education is an integral part of extension. The basic concept of extension is that it is education. Extension means that type of education which is stretched out to the people in rural areas, beyond the limits of the educational institutions to which the formal type of education is normally confined.

Basic Definitions Related to Extension

Extension education is an applied social science consisting of relevant content derived from physical, biological and social sciences and in its own process synthesized into a body of knowledge, concepts, principles and procedures oriented to provide non-credit out of school education largely for adults. - Leagans (1971).

Extension Education is a science, which deals with the creation, transmission and application of knowledge designed to bring about planned changes in the behavior-

complex of people, with a view to help them live better by learning the ways of improving their vocations, enterprises and institutions (Reddy, 1993).

Extension Education is a science that brings about desirable changes in the behavior of the concerned persons through educational methods, so as to improve their general standard of living with their own efforts. In fact, it deals with the designs and strategies of transfer of technology to the concerned persons. In other words, what is taught to the farmers is not Extension Education, though its knowledge is applied for the effective & efficient communication of various programmes of change (Singh, 1994).

Extension is education and that its purpose is to change attitude and practices of the people with whom the work is to change. (Ensminger, 1957)

Extension Education is the process of teaching rural people how to live better by learning ways to improve their farm, home and community institutions (Leagans, 1961).

Extension as an out of school education and services for the members of the farm family and others directly or indirectly engaged in farm production to enable them to adopt improved practices in production, management, conservation and marketing. Several authors defined extension in various ways emphasizing the importance of one or the other aspect of extension (National Commission on Agriculture, 1976).

Scope of Extension Education

Extension appears to have unlimited scope in situations where there is need for creating awareness amongst the people and changing their behaviour by informing and educating them. Kelsey and Hearne (1967) identified nine areas of programme emphasis, which indicate the scope of agricultural extension.

1. Efficiency in agricultural production.
2. Efficiency in marketing, distribution and utilization.
3. Conservation, development and use of natural resources.
4. Management on the farm and in the home.
5. Family living.
6. Youth development.
7. Leadership development.
8. Community development and rural area development.
9. Public affairs.

The following statements will further amplify the scope of extension.

1. Extension is fundamentally a system of out-of-school education for adults and youths alike. It is a system where people are motivated through a proper approach to help themselves by applying science in their daily lives, in farming, home making and community living.

2. Extension is education for all village people.
3. Extension is bringing about desirable changes in the knowledge, attitudes and skills of people.
4. Extension is helping people to help themselves.
5. Extension is working with men and women, boys and girls, to answer their felt needs and wants.
6. Extension is teaching through "learning by doing" and "seeing is believing".
7. Extension is working in harmony with the culture of the people.
8. Extension is a two-way channel; it brings scientific information to village people and it also takes the problems of the village people to the scientific institutes for solution.
9. Extension is working together (in groups) to expand the welfare and happiness of the people with their own families, their own villages, their own country and the world.
10. Extension is development of individuals in their day-to-day living, development of their leaders, their society and their world as a whole.

Principle of Extension Education

1. Principle of peoples need and interest

Extension work must be based on the needs & interests of the people. Always programme must be developed according to the needs & interests. These need differ from individual to individual, from village to village, from block to block, from state to state; therefore, there cannot be one programme for all people.

2. Principle of grass root level organisation

A group of rural people in local community should sponsor extension work. They work with local community so that the programme should fit in with the local conditions. The aim of organising the local group is to demonstrate the value of the new practices or programmes so that more & more people would participate.

3. Principle of cultural difference

Extension work is based on the cultural background of the people with whom the work is done. Differences in the culture are always being there between extension worker and rural people, success is when extension professionals has to know the level of the knowledge, & the skills of the people, methods & tools used by them, their customs, traditions, beliefs, values, etc. before starting the extension programme.

4. Principle of cooperation and people's participation

Extension is a co-operative venture. It is a joint democratic enterprise in which rural people co-operate with their village, block & state officials to pursue a common cause. Ultimately without the cooperation of people the work cannot be successful and desired result cannot be achieved. The first task of extension education is the cooperation of people and their participation in work. Extension helps people to help themselves. Good extension work is directed towards assisting rural families to work out their own problems rather than giving them ready-made solutions. Actual participation & experience of people in these programmes creates self-confidence in them and also they learn more by doing. People should realise that the task of extension education is their own task. Participation in extension work generates confidence among people for the work. It is not essential that all the members of the society should participate but extension professionals should try for maximum participation of people.

5. Principle of cultural change

Extension education starts with what the learner knows, has and thinks. With this in mind and with an attitude of respect towards clients, the extension professionals must seek to discover and understand the limitations, taboo and the cultural values related to each phase of programme so that an acceptable approach could be selected in the locality.

6. Principle of learning by doing

According to this principle, farmers are encouraged to learn by doing the work themselves and by participating in it. When a person does a work, he gains practical knowledge and experiences the difficulties. Extension professionals are able to understand the problems and provide proper guidance to the farmers and thus, they are able to receive proper information/feedback.

7. Principle of trained specialists

It is very difficult that extension personnel should have knowledge about all problems. Therefore, it is necessary that specialists should impart training to the farmers from time to time.

8. Principle of adaptability in use of extension teaching methods

People differ from each other. One group differs from another group and conditions also differ from place to place. An extension programme should be flexible, so that necessary changes can be made whenever needed, to meet the varying conditions. Extension professionals should have knowledge of extension methods so that they can select proper method according to the condition. Teaching methods should be flexible so that they can be properly applied on people according to their age groups, educational background,

economic standard and gender. In extension education, two or more methods should be applied according to the principle of adaptability.

9. Principle of leadership

Extension work is based on the full utilisation of local leadership. The selection and training of local leaders to enable them to help in carrying out extension work is essential to the success of the programme. People have more faith in local leaders and they should be used to put across a new idea so that it is accepted with the least resistance.

10. Principle of whole family

Extension work will have a better chance of success if the extension professionals have a whole-family approach instead of piecemeal approach or separate and uninterested approach. Extension work is, therefore, for the whole family, i.e. for male, female and children.

11. Principle of evaluation

Extension is based upon the methods of science, and it needs constant evaluation. The effectiveness of the work is measured in terms of the changes brought about in the knowledge, skill, attitude, and adoption behaviour of the people, not merely in terms of achievement of physical targets.

12. Principle of satisfaction

The end-product of the effort of extension teaching is the satisfaction that comes to the farmer and his family members as the result of solving a problem, meeting a need, acquiring a new skill or some other changes in behaviour. Satisfaction is the key to success in extension work.

13. Principle of Indigenous Knowledge

People, everywhere, have indigenous knowledge system which they have developed through generation of work experience and problem solving in their own specific situation. The indigenous knowledge systems encompass all aspect of life and people considered it as essential for their survival.

Objective of Extension

Objectives are end towards which our efforts are to be directed. More specific objectives of extension education are:

1. To assist people to discover and analyze their problems and identify their felt needs.
2. To develop leadership among people and help them in organizing groups to solve their problems.
3. To disseminate research information of economic practical importance in a way people would work and understand.

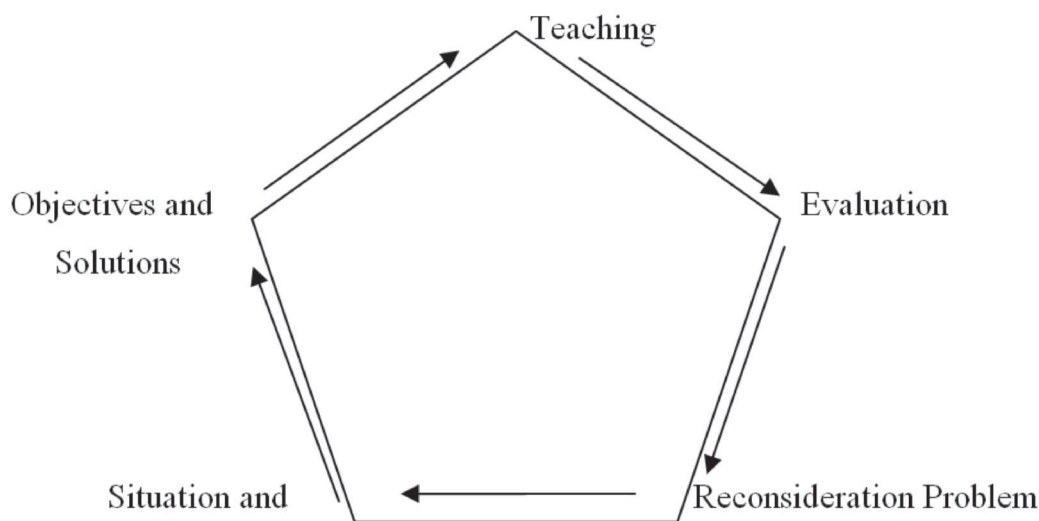
4. To assist people in mobilizing and utilizing the resource which they have and which they need from outside.
5. To collect and transmit feedback information for solving management problems.

Extension Educational Process

An effective extension educational programme involves five essential and interrelated steps. This concept of the extension educational process is intended only to clarify the steps necessary in carrying out a planned educational effort. It does not imply that these steps are definitely separate from each other. Experience shows that planning, teaching and evaluation take place continuously, in varying degrees, throughout all phases of extension activities.

First step: The first step consists of collection of facts and analysis of the situation. Facts about the people and their enterprises; the economic, social, cultural, physical and technological environment in which they live and work. These may be obtained by appropriate survey and establishing rapport with the people.

The responses obtained are to be analyzed with the local people to identify the problems and resources available in the community. For example, after a survey in a community and analysis of the data, the problem was identified as low income of the farm family from their crop production enterprise.



Second Step: The next step is deciding on realistic objectives which may be accomplished by the community. A limited number of objectives should be selected by involving the local people. The objectives should be specific and clearly stated, and on completion should bring satisfaction to the community. Objectives should state the behavioral changes in people as well as economic and social outcomes desired.

In the example, the problem was identified as low income from the crop production enterprise. A deeper probe into the date revealed that low income was due to low yield of crops, which was attributed to the use of local seeds with low yield potential, application of little fertilizer and lack of protection measures. By taking into consideration the capacity and competency of the people in the community and the availability of resources, the objective was set up to increase the crop yield by 20 per cent within a certain period of time. It was estimated that the increased yield shall bring increased income, which shall enhance the family welfare.

Third step: The third step is teaching, which involves choosing what should be taught (the content) and how the people should be taught the methods and aids to be used. It requires selecting research findings of economic and practical importance relevant to the community, and selection and combination of appropriate teaching methods and aids.

Based on the problems identified in the particular example, technologies like use of HYV seeds, application of fertilizer and plant protection chemicals were selected as teaching content. Result demonstration, method demonstration, farmers' training and farm publications were chosen as teaching methods, and tape recorder and slides were selected as teaching aids.

Fourth step: The fourth step is evaluating the teaching i.e, determining the extent to which the objectives have been reached. To evaluate the results of an educational programme objectively, it is desirable to conduct a re-survey. The evidence of changed behavior should be collected, which shall not only provide a measure of success, but shall also indicate the deficiencies, if any.

In the example, the re-survey after the fixed period of time, indicated that the crop yield had increased by 10 percent. It, therefore, indicated that there was a gap of 10 per cent in crop yield in comparison to the target (objective) of 20 per cent fixed earlier. The re-survey also indicated that there had been two important deficiencies in carrying out the extension educational program, such as, there was lack of proper water management and the farmers could not apply the fertilizer and plant protection chemicals as per recommendation due to lack of funds.

Fifth step: The fifth step is re-consideration of the entire extension educational programme on the light of the results of evaluation. The problems identified in the process of evaluation may become the starting point for the next phase of the extension educational programme, unless new problems have developed or new situations have arisen.

After re-consideration of the results of evaluation with the people, the following teaching objectives were again set up. For example, they were training the farmers on proper water management practices and putting up demonstrations on water management. The people were also advised to contact the banks for obtaining production credit in time to purchase critical inputs. Thus, the continuous process of extension education shall go on, resulting in progress of the people from a less desirable to a more desirable situation.

References

1. Claudio Z.D. (1988). Formal, Non-Formal and Informal Education: Concepts/Applicability. Cooperative Networks in Physics Education - Conference Proceedings 173", American Institute of Physics, New York, pp. 300-315 retrieved from <http://techne-dib.com.br/downloads/6.pdf>
2. Dimensions of Agricultural Extension:(Aext191) (1+1). Principles, Philosophy Processes and Objectives of Extension Retrieved from <http://eagri.org/eagri50/AEXT191/lec02.pdf>
3. Dushi G. Notes on the Types of education: formal, informal, non-formal. Retrieved from <http://www.preservearticles.com/notes/notes-on-the-types-of-education-formal-informal-non-formal/17995>
4. Education from Wikipedia retrieved from <https://en.wikipedia.org/wiki/Education>
5. Fundamental of Rural Sociology & Educational Psychology, (AEXT391) (2+0), lect1 retrieved from <http://eagri.org/eagri50/AEXT391/lec01.pdf>
6. Principles of Extension Education, Dairy Extension Education. Retrieved from <http://ecoursesonline.iasri.res.in/mod/resource/view.php?id=4360>
7. Ray, G.L.(2013) Extension Communication and management. New Delhi. Kalayni publication.
8. Sharma, A. (2016). Education: Meaning, Definition, types of education and characteristics, Extension education: Meaning, definition and concept. Retrieved from <https://www.slideshare.net/Arpita615/education-meaning-definition-types-of-education-and-characteristicsextension-education-meaning-definition-and-concept>

Extension Programme Planning

Surendra Kumar Rai

Assistant Professor
College of Agriculture Balaghat
JNKVV, Jabalpur

The first step in any systematic attempt to promote rural development is to prepare useful programmes based on people needs. The development of such programmes, require planning which harmonize with the local needs as the people see them and with the national interests with which the country as a whole is concerned, is an important responsibility of extension personnel at all levels-national, state, district, block and village.

Programme planning is the process of making decisions about the direction and intensity of extension-education efforts of extension-service to bring about social, economic and technological changes.

Programme planning is a process which involves multiple steps including the identification of a problem, selection of desired outcomes, assessment of available resources, implementation and evaluation of the programme. In other words it is a procedure of working with the people to recognize unsatisfactory situations or problems and to determine possible solutions.

According to Kelsey and Hearne (1967) An Extension Programme is a statement of situation, objective, problems and solutions. It is relatively permanent but requires constant revision.

Leagans (1961) says that an "extension programme" is a set of clearly defined, consciously conceived objectives or ends, derived from an adequate analysis of the situation, which are to be achieved through extension teaching activity'.

Lawrence (1962) says that an "extension programme" is the sum total of all the activities and undertakings of a county extension services. It includes: (i) programme planning process (ii) written programme statement (iii) plan of work (iv) programme execution (v) results and (vi) evaluation.

Programme planning: Programme planning is a decision making process which involves critical analysis of the existing problems and evaluation of available best alternatives to solve these problems by cooperative efforts of the people for community growth and development.

Some relevant terms required to understand in programme planning are given below:

Programme: Programme is a written statement which describes proposed developmental activities, the problems they address, the actions, and resources required.

Planning: it is a process which involves studying the past and present in order to forecast the future and in the light of that forecast determining the goal to be achieved.

Plan: Plan is schedule of development work outlining different activities in a specific period. It answers the questions like what, why, how, and when as well as by whom and where the work is to be done.

Aims: Aims are generalized and broad statement of directions with respect to given activities. eg. The improvement of farmers' economic condition.

Objectives: Objectives are expression of ends towards which our efforts are directed. The dictionary meaning of objective is 'something that one's efforts or actions are intended to attain or accomplish' e.g. To increase the yield of rice by 30 percent.

Goal: Goal is the distance in any given direction one expects to go during a given period of time e.g. to increase yield of rice by 10 quintals per hectare in the current year.

Problem: It refers to a situation, condition, or issue that is yet unresolved and after study people decided need to change it.

Solution: Solution is a course of proposed action to change an unsatisfactory condition to one that is more satisfying.

Project: It is a specification of work to be done or procedures to be followed in order to accomplish a particular objective.

Plan: It is a predetermined course of action.

Plan of work: It is an outline of activities so arranged as to enable efficient execution of the programme. The plan of work indicates what, who, how and when the activities will be carried out.

Calendar of Work: Calendar of work is a plan of activities to be undertaken in a particular time sequence.

Objectives of Programme

The general objective of an extension programme is to influence people to transform their life in better way. The assumption is that there is a need for change and make people aware of this, if they are not and to develop their needs. Important objectives of having a programme planning as per Kelsey and Hearne (1966) are as follows:

1. To ensure careful consideration of what is to be done and why.
2. To furnish a guide against which to judge all new proposals.
3. To establish objectives toward which progress can be measured and evaluated.
4. To have a means of choosing the important (deep rooted) from incidental (less important) problems; and the permanent from the temporary changes.

5. To develop a common understanding about the means and ends between functionaries and organizations.
6. To ensure continuity during changes of personnel.
7. To help develop leadership.
8. To avoid wastage of time & money and promote efficiency.
9. To justify expenditure and to ensure flow of funds.
10. To have a statement in written form for public use.

Principles of Extension Programme Planning

Extension programmes have the definite purpose of improving rural life through individual, group and community action. Extension programme planning has certain principles, which holds good irrespective of the nature of the clientele, and the enterprises they may be pursuing, viz. :

- 1. Extension programmes should be based on an analysis of the past experiences, present situation and future needs.**

For programme determination adequate information about the people and their situation has to be collected. The present information is to be analysed and interpreted on the basis of past experiences, by taking local people into confidence. This shall help in arriving at the future needs

- 2. Extension programmes should have clear and significant objectives, which could satisfy important needs of the people.**

The main objective of programme development is to satisfy the need of people. For this purpose significant objectives pertaining to important needs of the people should be selected and clearly stated. The emphasis will be on what is attainable rather than on what is ideal although one should not lose sight of the ideal.

- 3. Extension programmes should fix up priority on the basis of available resources and time.**

Generally, in developed countries rural people have multiple problems but at the same time all problems cannot be taken up for solution because of limitation of the available resources. Therefore considering this fact priority should be decided in the programme.

- 4. Extension programmes should clearly indicate the availability and utilization of resources.**

To make programme practical and workable it is important to clearly indicate the availability of funds, facilities, supplies and the needed personnel and how these resources will be utilized.

5. Extension programmes should have a general agreement at various levels.

Programme prepared at various levels such as village, district, state and national levels. The extension programme of any department or level should not be conflict or contradict with the extension programme of any other department or level.

6. Extension programmes should involve people at the local level.

Extension programme are implemented at local level. Therefore, local people should be involved in all stages starting from programme formulation to programme implementation.

7. Extension programmes should involve relevant institutions and organization.

Extension programme cannot be implemented in isolation. It requires the support of many institution and organizations. The programme should broadly indicate the institutions and organizations to be involved and how they shall contribute in attaining the programme objectives.

8. Extension programme should have definite plan of work.

The plan of work may be separately drawn up or incorporated in the programme. The programme should at least broadly indicate how it will be executed.

9. Extension programme should provide for evaluation of results and reconsideration of the programme.

The programme should make provision for periodical monitoring and evaluation of results to judge its progress. On the basis of the findings of evaluation the programme should be suitably modified for attainment of objectives within the stipulated time.

10. Extension programmes should provide for equitable distribution of benefits amongst the members of the community.

In community generally resource full persons benefited more compared to resource poor in any programme. As this creates social disparity and social tension, the planning of extension programmes should give adequate emphasis on the weaker section of the community.

Steps in Extension Programme Planning Process

The process of extension, as applied to development programmes, involves five essential phases (SOTER) i.e. Analyzing the Situation, Objectives or Goals to be Accomplished, Teaching, Evaluating the Teaching, Reconsidering (Leagans, 1961). These steps are intended only to clarify the necessary actions in carrying out a planned extension educational effort.

3. Identification of problems

As a result of the analysis of facts, the important gaps between 'what is' and 'what ought to be' are identified and the problems leading to such a situation are located. These gaps represent the people's needs.

4. Determination of objectives

Once the needs & problems of the people have been identified, they are stated in terms of objectives & goals. The objectives represent a forecast of the changes in the behaviour of the people and the situation to be brought about. The objectives may be long-term as well as short-term, and must be stated clearly.

5. Developing the plan of work

In order to achieve the stated objectives & goals, the means & methods attaining each objective are selected; and the action plan, i.e. the calendar of activities is developed. It includes the technical content, who should do what, and the time-limit within the work will be completed. The plan of work may be seasonal, short-term, annual or long-term.

6. Execution of the plan of work

Once the action plan has been developed, arrangement for supplying the necessary inputs, credits, teaching aids, extension literature etc. has to be made and the specific action has to be initiated. The execution of the plan of work is to be done through extension methods for stimulating individuals and groups to think, act and participate effectively. People should be involved at every step to ensure the success of the programme.

7. Evaluation

It is done to measure the degree of success of the programme in terms of the objectives & goals set forth. This is basically done to determine the changes in the behaviour of the people as a result of the extension programme. The evaluation is done not only of the physical achievements but also of the methods & techniques used and of the other steps in the programme planning process, so that the strong & weak points may be identified and necessary changes may be incorporated accordingly.

8. Reconsideration

The systematic and periodic evaluation of the programme will reveal the weak and strong points of the programme. Based on these points, the programme is reconsidered and the necessary adjustments & changes are made in order to make it more meaningful & sound.

Programme planning is not the end-product of extension activities, but it is an educational tool for helping people to identify their own problems and make timely & judicious decisions. From the above mentioned cycle, it is clear that the planning of an extension programme comprises a logical series of consecutive steps. The first 4 steps form the programme-phase. The steps 5-7 form the action-phase. The step 8, i.e.

reconsideration, joins the 2 phases together, where it leads to the fact-collecting step, thus beginning once more the never ending or continuous process of planning the extension programme.

References:

1. Ahmed, M. R. (1991). Planning and Designing Social Forestry Project. In Ahmed, M. R. (ed.) Social Forestry and Community Development, pp. 109 - 116. FAO, FTPP.
2. Extension Program Planning and Evaluation. (2020 Jan. 10). retrieved from <http://eagri.org/eagri50/AEXT392/lec02.html>
3. Legans, J.P. (1961). Characteristics of Teaching and Learning in Extension Education, Extension Teaching Methods, The Communication Process and Programme Planning to Meet People's Needs in Extension Education in Community Development . Directorate of Extension, Govt. of India, New Delhi.
4. Programme planning. (2020 Jan. 15) retrieved from <http://ecoursesonline.iasri.res.in/mod/resource/view.php?id=4384>
5. Ray, G. L. (2017). Extension Communication and Management. New Delhi, Kalyani Publisher. Pp 227-248
6. Sandhu, A. S. (2003). Extension Programme Planning. New Delhi, Oxford and IBH Publishers.
7. Sasidhar, P.V. (21 Dec. 19). Programme Planning. retrieved from <http://www.egyankosh.ac.in/bitstream/123456789/39227/1/Unit-1.pdf>
8. Van den Ban, A.W. and Hawkins, H.S. (2002). Agricultural Extension, New Delhi, CBS Publishers and Distributors.

Extension System in India

Sheela Raghuwanshi

Assistant Professor, Deptt. of Extension Education
College of Agriculture, Tikamgarh,
JNKVV Jabalpur

World Bank defined rural development in terms of an improvement of the economic and social life of the rural poor. Rural development encompasses all sectors of rural life. In its widest sense, it implies development of every aspect of rural life. There are number of rural development programs were started by the Nationalists and Social reformers. Some of these programs gradually disappeared or some were merged with Government sponsored schemes later. This is because of various reasons like lack of encouragement of the Government, lack of financial support, inadequate, in experienced and untrained staff. For the clarity, we can divide these Development Programmes in two parts: Pre-Independence Programmes, and Post-Independence Programmes.

Pre-Independence Era Programmes:-

1. Sriniketan Project

In 1920, Rabindra Nath Tagore laid the foundation of the Sriniketan Institute for Rural Reconstruction with the help of sociologist Shri L.M Hurst. and formulated a programme for the all-round improvement in the Village of his Zamindari with the objective of studying rural problems and of helping the Villagers to develop agriculture, improving the livestock, formation of co-operatives. He believed in self help and mutual help and wanted the village workers to be involved in the life of rural people and work for their welfare. He started this programme in the cluster of **8 Villages** but were not very successful and can only be described as rural welfare works.

The absence of market facilities, professional guidance, lack of co-ordination between the implementing authority and improper incentives for workers made the task more difficult and desired results could not be achieved.

2. Gurgaon experiment

In 1920, Mr. Brayne had been appointed on the post of Deputy Commissioner in Gurgaon district and he began this project of rural upliftment in his district, which became famous as “Gurgaon Project.” The programme aimed at improving agriculture, education, health and sanitation facilities, co-operation, and social development with greater vigour. He stressed on the dignity of labour, self-help and conducted propaganda through films, songs, skits and plays with a view to increase farm yields and improving health standards. Although this project got some success yet this scheme also could not survive more because this project was also based upon the sentiments of F.L. Brayne and when he was transferred, gradually this programme also stopped.

3. Marthandam Project

Dr. Spencer Hatch of the **Young Men's Christian Association (YMCA)** set up a Project in 1921 at Martandam, 25 miles south of Thiruvananthapuram. The purpose of this experiment was to bring about a complete upward development towards a more complete and meaningful life for rural people three folded development - **spirit, mind and body**. To achieve this they launched five sided programme- spiritual, mental, physical, economic and social development were also included. The main stress in programme was on the principle that people should not depend on Government for support because when concessions and help in any field are not given, the people develop in them a feeling of self-help and self-reliance.

The objectives of this programme was the YMCA should work in the Villages to eliminate poverty. For the Rural Demonstration Centre at Martandam had a demonstration farm, prized animals, equipment for the honey industry and other cottage vocations.

4. Firka Development scheme

The Firka Development scheme of Madras was a Government sponsored Scheme in 1946. This programme aimed at organizing the villagers for a happier, more prosperous and fuller life in which the individual villagers had the opportunity to develop both as an individual and as a unit of a well-integrated society. Among Pre-Independence project, this was the biggest project. Selection of Firkas-based on general backwardness of the area and where there is possibility of initiating cottage industries. The priority areas of work for each Firka included Rural reconstruction facility, Drinking water facility, Sanitation, Khadi and other village industries.

For the overall development of the area planning was framed in two categories :

- ✓ Short term plans (development of infrastructure, communications)
- ✓ Long term plans (knowledge inputs, attainment of Gandhian ideal)

Post- Independence Era Programme

1. Etawah Pilot Project

In 1947, after Independence, the Government of India prioritised on rural development and how this work should be managed. For this the guidance of an experienced person was needed. The Government of India urged the U.S. government to send Mr. Albert Mayor to India because he had enough experience of rural development programme and was a Rural Sociologist.

Under the leadership of Lt.Col.Albert Mayor of USA , the office of Etawah Pilot Project was established by the U.P Govt. in October 1948 at Mahewa in the Etawah District. Initially 64 villages were selected around Mahewa District for the development. It was also called Average District Plan because the project was initiated in the normal environment . This programme named as pilot project means the work is for specific

location and further it shows the path. This programme was the forerunner of Community Development Programme.

2. Nilokheri Project

Nilokheri Project was started by S.K. Dey design to rehabilitate about 7000 displaced person (immigrants) from Pakistan after partition. He began this project using 100 acre of swampy land spreading in the midst of Karnal and Kurukshetra. The colony had its own dairy, poultry, piggery, printing press, engineering workshop, bone meal factory all run on cooperative lines. The Scheme was called “Mazdoor Manzil” because it was based on the principle of 'he who would not work neither shall he eat.

S.N.	Name of Programme	Year	Started by	Place	Objectives
Pre-Independence Programme					
1.	Sriniketan	1920	Rabindra Nath Tagore	Sriniketan (Calcutta) West Bengal	<ul style="list-style-type: none"> ✓ To help the rural people in establishing cottage industry. ✓ To inspire the people to follow new technology. ✓ Development of dairy farming. ✓ To create the feeling of co-operation
2.	Gurgaon Project	1920	F.L Bryne	Gurgaon	<ul style="list-style-type: none"> ✓ To increase crop production ✓ To control extra expenditure ✓ To improve the health. ✓ To develop the feeling of women education,
3.	Marthandam Project	1921	Dr. Spencer Hatch	Marthandam (Tamil Nadu)	<ul style="list-style-type: none"> ✓ To develop the feeling of self reliance amongst the rural people. ✓ To improve the spirit of cooperation and self-respect. ✓ To bring the desirable change in the attitude of rural people.
4.	Firka Development	1946	Madras Government	Madras (Tamil Nadu)	<ul style="list-style-type: none"> ✓ All-round development of rural people. ✓ To develop the means of drinking water and communication. ✓ To develop the committees of <i>panchayat</i> and co-operatives
Post-Independence Programme					
1.	Etawah Pilot Project	September, 1948	Lt.Col. Albert Mayor	Mahewa District-Etawah (U.P)	<ul style="list-style-type: none"> ✓ To see what degree of production and social improvement can be obtain. ✓ To find out the feeling of cooperation and initiative amongst the rural people of an average area.
2.	Nilokheri Experiment	July, 1948	S.K.Dey	Kurukshetra (Haryana)	<ul style="list-style-type: none"> ✓ Self-dependence in all the fields of life. ✓ To arrange for professional training and provide occupation for the people on the basis of their experience. ✓ To eliminate the middle-man system

References

1. Mondal, S. (2019). Fundamentals of Agricultural Extension Education. New Delhi, Kalyani publishers.
2. Dhama, O.P. and Bhatnagar, O.P. (2006). Education and Communication for Development, , New Delhi: Oxford and IBH Publishing Co.
3. Ray, G.L. (1996) Extension Communication and Management, Calcutta, West Bengal: Naya Prakash Publications.

Various Extension / Agriculture Development Programmes Launched by ICAR / Govt. of India

Kinjulck C Singh

Subject Matter Specialist

KVK Rewa

India has become self sufficient in agriculture through increasing food production by many folds after green revolution. It was an integrated effort of the policy, research and extension support. Agriculture development in India is very location specific. However the Union Government play a guiding role in formulating policies to accelerate growth of agricultural sector. The programmes conceived at national level are mainly implemented by the various departments of state government. Indian Council of Agricultural Research (ICAR) is an apex body at the national level that supports research and extension activities to evolve effective Transfer of Technology (TOT) models. The State Agricultural Universities also contemplate to develop extension models suitable to take up transfer of technology besides implementing the models evolved by ICAR system. (K. Narayana Gowda).

There are many agricultural development and extension programmes which were launched by Government of India and ICAR. Some of them are listed below for a glance to understand their objectives and features. Among these programmes some are mentioned as “Programmes for technological Development” like IADP, IAAP, ICDP and HYVP, where as some are refereed as “Development programmes with Social Justice” viz MFAL, DPAP, T&V, IRDP, TRYSEM, NREP, DWACRA, NAEP, TMO, JRY, EAS, SFAC and SGSY. Later on various programmes were designed for “Infrastructure Development” like NATP, PURA, NAIP, NREGA and NFSM. Realizing the importance of changing climate and for resource conservation programmes like NICRA and FFS and SHC have been incorporated in the last decade. On a keen observation it is realized that every new programme was designed to fill the deficiency of previous programmes and experiences. Hence these programmes looks like quite related to each other and sometimes overlapping too. However they are capable to address every section of rural community in general and farming community in particular. Programmes introduced in 21st century involves ICT component to ensure faster delivery of information.

S.N.	Name of the programme	Year of Start	Target Group	Objectives
1	Intensive Agricultural District Programme (Package Programme)	1960	District with high potential to increased yield	<ul style="list-style-type: none"> To achieve rapid increase in the level of agriculture production through a concentration of financial, technical, extension and administrative resources; To achieve a self-generating breakthrough in productivity and to raise the production potential by stimulating the human and physical process of change; and To demonstrate the most effective ways of increasing production and thus, to provide lessons for extending such intensified agricultural production programmes to other areas.
2	Intensive Agricultural Area Programme	1964-65	-,,-	<ul style="list-style-type: none"> To bring about 20 to 25 per cent of the cultivated area of the country under the intensive agricultural development (Improved version of package programme).
3	High Yielding Variety Programme	1966-67	Punjab, Haryana and Western parts of UP	<ul style="list-style-type: none"> To attain attaining self-sufficiency in food through high yielding varieties combined with the application of high analysis and balanced fertilizer, irrigation, plant protection, improved implements etc.
4	National Demonstration	1964	100 districts mainly through the State Agricultural Universities	<ul style="list-style-type: none"> To demonstrate convincingly the genetic production potentialities of major crops. To fully exploit these demonstrations for the purpose of training farmers and field extension functionaries in improved cultivation practices. To provide the research workers and opportunity to get firsthand knowledge of the problems being faced by the farmers in adopting high yielding varieties and recommended package of practices. To determine the income and employment generation potentialities of the crops/subjects under demonstration, and educate the farmers and extension agents about them. To influence the extension system of the state Departments of Agriculture and voluntary organizations in the country by demonstrating the yield gaps and pointing out operational constraints.
5	Command Area Development Programme	1974	Area near River for assured irrigation	<ul style="list-style-type: none"> To ensure a faster and better utilization of irrigation water in selected major and medium irrigation projects. To increase productivity per unit of land and water. To develop integrated system of effective irrigation water distribution and efficient water management practices.
6	Tribal and Hill Area Development	1973-74	Tribal area and Hilly belts	<ul style="list-style-type: none"> To ensure best utilization of water and land for agriculture and horticulture. The improvement of land, water and electricity. To create facility of housing for the landless farmers. To minimize the traditional planting of trees and Jhoom farming on the farms. To encourage the side business-cattle development, dairy development, piggeries, goat, sheep, beehive and silk-worm taming. To aid the tribal area, to sanction the loan and to free them from landlords.

7	Operational Research Project	1974-75	Cluster of watershed area	<ul style="list-style-type: none"> To test, adopt and demonstrate the new agricultural technology on farmer's fields in a whole village or in a cluster of few contiguous villages/watershed area. To determine the profitability of the new technologies and their pace of spread among the farmers. To identify the constraints both technological, as well as socio-economic that are barrier to rapid change. To demonstrate group action as a method of popularizing the modern technologies at a faster rate.
8	Krishi Vigyan Kendra	1974	Whole District	<ul style="list-style-type: none"> The main objective of the KVK was to provide a strong training support for bringing about production breakthrough in agriculture. Now the objectives have been redesigned as followed- To promptly demonstrate the latest agricultural technologies to the farmers as well as extension workers of State Departments of Agriculture/Horticulture/ Fishery/ Animal Science/ NGOs with a view to reduce the time lag between the technology generation and its adoption. To test and verify the technologies in the socio-economic conditions of the farmers with a view to study the production constraints and to modify the technologies to make them appropriate. To impart trainings to the practising farmers/ farm women, rural youth and field level extension functionaries by following the methods of "Teaching by doing" and "Learning by doing". To back-up with training and communication supports to the district level development departments viz; Agriculture/ Horticulture/ Fisheries/ Animal science and NGOs in their extension programmes
9	Lab to Land Programme	1979	Small, marginal farmers and landless agricultural labourers particularly scheduled castes and scheduled tribes	<ul style="list-style-type: none"> The programme intended to improve the economic condition of targeted group by transfer of improved technology developed by agricultural universities and research institutions.
10	Drought Prone Area Programme	1973-74	Drought Prone Area	<ul style="list-style-type: none"> The basic objective of DPAP was to reduce the severity of the impact of the drought and stabilizing the income of the people, particularly, the weaker sections of the society together with restoration of ecological balance.
11	Small Farmers Development Agency	1971	Marginal and small farmers and agricultural labourers	<ul style="list-style-type: none"> The basic objective of this agency was to enable selected target groups of marginal and small farmers and agricultural labourers to improve their income through productive activities and improving their existing ones.
12	Marginal Farmers and Agricultural Labour Development	1971		

13	National Rural Employment Programme	1977	Rural Poor	<ul style="list-style-type: none"> To provide productive assets to the rural poor to enable them to generate additional or incremental income out of the provided assets and also leave a surplus to repay the loan. To provide employment to the rural poor by creating durable community assets or undertaking other work programme both during busy and lean period. To provide basic infrastructural facilities like clean drinking water, medical facilities, education, electrification, rural roads etc. To provide clinical and other types of guidance and support to the unemployed to make them the potential entrepreneurs for self-employment..
14	Training of Rural Youth for Self-Employment	1979	Rural Youth	<ul style="list-style-type: none"> To provide technical skill to the rural youth from the families below poverty line to enable them to take up self employment in the broad fields of agriculture and allied activities, industries, services and business enterprises.
15	Integrated Rural Development Programme	1980	BPL Families	<ul style="list-style-type: none"> The objective of Integrated Rural Development Program is to help families who live below the poverty line to enhance their state of living and to empower the poor by helping them develop at every level. The program's objectives are met by providing productive assets and inputs to its target groups. The assets, which could be in the primary, secondary or tertiary sector are provided as financial assistance to these families in the form of government subsidies as well as loans or credit from financial institutions.
16	Rural Landless Employment Guarantee Programme	1983	Landless rural poor	<ul style="list-style-type: none"> Generating gainful employment Creating proactive assets in rural areas. Improving the overall quality of rural life.
17	Jawahar Rozgar Yojana (NREP + RLEGP)	1989	Rural Poor Families	<ul style="list-style-type: none"> Generation of additional gainful employment for the employed and underemployed persons in the rural areas.
18	National Agriculture Extension Project	1982-83	Farmers	<ul style="list-style-type: none"> To strengthen the reorganized agricultural extension system. To conduct district level bimonthly technical workshops. To conduct district level diagnostic survey. To develop literature on crops and agricultural enterprises suitable for the district. To organize farmers interaction sessions.
19	Watershed Development Programme	1994-95	Human as well as animals	<ul style="list-style-type: none"> To develop wastelands or degraded lands, drought-prone and desert areas on watershed basis, keeping in view the capability of land, site conditions and local needs. To promote the overall economic development and improving the socioeconomic condition of the resource poor and disadvantaged sections inhabiting the programme areas. To mitigate the adverse effects of extreme climatic conditions such as drought and desertification on crops, human and livestock population for their overall improvement.

20	National Agricultural Technology Project	1998	-	<ul style="list-style-type: none"> The overall objective of NATP was to revitalize the agricultural technology generation assessment, refinement and dissemination systems. It had three components. These were: ICAR organization and management reforms Expansion of location specific research on production system and Testing of innovations in technology dissemination
21	Institute Village Linkage Programme	1999		<ul style="list-style-type: none"> Introduce technological intervention with emphasis on stability and sustainability along with productivity of small production system. To introduce and integrate the appropriate technologies to sustain technological interventions and their integration to maintain productivity and profitability taking environmental issues into considerations in comparatively well defined production systems. To introduce and integrate the appropriate technologies to increase the agriculture productivity with marketable surplus in commercial farm production systems. To facilitate adoption of appropriate post-harvest technologies for conservation and on-farm value addition of agriculture products, by products and wastes for greater economic dividend and national priorities. To facilitate adoption of appropriate technologies for removal of drudgery increased efficiency and higher income of farm woman. To monitor socio-economic impact of the technologies intervention for different production systems. To identify extrapolation domains for new technology modules based on environmental characterization at meso and mega levels.
22	National Agricultural Innovation Project	2006	All stakeholders in agriculture	<ul style="list-style-type: none"> To alleviate the accelerated and sustainable transformation of Indian agriculture in support of poverty easing and income generation via cooperative development and application of agricultural innovations by the public organizations in partnership with farmers groups, the private sector and other stakeholders.
23	National Innovations on Climate Resilient Agriculture (NICRA)	2011	Farmers	<ul style="list-style-type: none"> To enhance the resilience of Indian agriculture covering crops, livestock and fisheries to climatic variability and climate change through development and application of improved production and risk management technologies. To demonstrate site specific technology packages on farmers' fields for adapting to current climate risks. To enhance the capacity of scientists and other stakeholders in climate resilient agricultural research and its application.

24	Attracting and Retaining Youth in Agriculture	2015	Rural youth	<ul style="list-style-type: none"> To attract and empower the Youth in Rural Areas to take up various Agriculture, allied and service sector enterprises for sustainable income and gainful employment in selected districts. To enable the Farm Youth to establish network groups to take up resource and capital intensive activities like processing, value addition and marketing. To demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/program for sustainable development of youth.
25	Farmers FIRST (Farm, Innovations, Resources, Science and Technology) Programme	2016	Farmers	<ul style="list-style-type: none"> To enhance farmer-scientist interface, enrich knowledge and facilitate continued feedback. To identify and integrate economically viable and socially compatible technological options as adoptable models for different agro-ecological situations. To develop modules for farm women to address drudgery reduction, income enhancement and livelihood security. To study performance of technologies and perception of the farmers about agriculture as a profession in the rural settings. To build network of linkages of organizations around the farm households for improving access to information, technology, input and market. To institutionalize Farmer FIRST process.
26	Mera Gaon Mera Gaurav	2015	Farmers	<ul style="list-style-type: none"> To promote the direct interface of scientists with the farmers to accelerate the lab to land process. To ensure that farmers benefit from best farm practices by providing required information, knowledge and advisories on regular basis by adopting villages. To create awareness among farmers about the organisations and their programmes and schemes as well as government policies related to the farming sector. To imbibe a sense of ownership among the agricultural scientists of the country.
27	Soil Health Card	2015	All farmers	<ul style="list-style-type: none"> To provide a basis to address nutrient deficiencies in fertilization practices. To strengthen functioning of Soil Testing Laboratories (STLs) through capacity building. To diagnose soil fertility related constraints with standardized procedures. To develop and promote soil test based nutrient management. To disseminate soil testing results through SMSs

References:-

1. Dhama, O.P. and Bhatnagar, O.P. (1991). Education and Communication for Development. New Delhi, Oxford IBH Publishing Co.
2. Gowda, K. N.(2016) Agricultural Extension Systems in India. retrieved from <http://fliphtml5.com/bxhp/sxdi/basic>
3. Lab to Land Programme.(2012,Jan 11). Retrieved from <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=15377>
4. Sharma, O.P. (2012). Development perspective of extension education. Udaipur, Agrotech Publishing Academy.
5. Singh, R. (1987) .A textbook of extension education. Ludhiana, Sahitya Kala Prakashan.
6. Soil Health Card (2014, March 20) retrieved from <https://soilhealth.dac.gov.in/Content/blue/soil/about.html>

Kamini Bisht

Assistant Professor

Department of Extension Education, College of Agriculture
JNKVV, Jabalpur**Privatization of Extension**

Privatisation broadly refers to a process by which the government reduces its role in an activity and encourages private sector to take up these roles.

Concept and Definition:

- ❖ ChandraShekara, 2001: The Process of funding and delivering the extension services by private individual or organisation is called Private Extension.
- ❖ Bloom indicated that private sector extension involves personnel in the private sector extension involves personnel in the private sector.
- ❖ Vanden Ban and Hawkins (1996) state that in private sector extension, farmers are expected to share the responsibility for the service and pay all or part of the cost.
- ❖ Saravanan and Shivalinge Gowda (1999) operationalized Privatization as follows: “Privatization of extension service refers to the services rendered in the area of agriculture and allied aspects by extension personnel working in private agencies or organisations for which farmers are expected to pay a fee (or free) and it can be viewed as supplementary or alternative to public extension services”.

These concepts about the privatization emphasize three aspects:

- ❖ It involves extension personnel from private agency/ organization.
- ❖ Clients are expected to pay the service fee.
- ❖ Act as supplementary or alternative to public extension service.

Through the process of privatization, extension effectiveness is expected to improve by:

- ❖ reorienting public sector extension with limited and well focused functions,
- ❖ more number of extension providers (institutional pluralism) resulting from active encouragement by the public sector to initiate, operate and expand.
- ❖ more private participation leading to the availability of specialised services hitherto not available from the public system
- ❖ user contributions to extension leading to improved financial sustainability,
- ❖ support and control by clients leading to client orientation

Privatisation can take place broadly in two ways:

- ✓ Dismantling of Public sector
- ✓ Controlled Privatisation

Reasons behind privatisation of extension services

Following are some of the reasons behind privatisation in agricultural extension services:

- (1) **Fiscal crisis:** Many less developed country's governments have found it difficult to make adequate resources available for extension. Financial pressures have, in turn led to the search for ways of reduction in public sector costs.
- (2) **Disappointing performance of public extension system:** Impact of public extension system in agricultural development is disappointing. Extension work is ineffective, does not match with farmer's needs, there is little consideration for cost-effectiveness and less competent extension personnel have no accountability to farmers. Moreover, public extension alone will never answer to entire demand of farming community.
- (3) **Changing contexts and opportunities:** In recent past Indian agriculture is shifting from mere subsistence level to commercialized agribusiness to meet all challenges and opportunities of globalization and liberalization, effective alternative extension approach is required. Increasing commercial and specialized nature of agriculture will demand quickly and technically sound advice, based on scientific analysis with appropriate marketing information. Further India is facing population explosion which had resulted into reduction in land holding size.

Due to improved transport network and better communication facilities private agencies and communication media are also reaching to remote villages.

Therefore, there is an urgent need for an efficient technological guidance along with recent market information, which is only possible through privatization of extension services.

- (4) **The extension worker:** The extension worker and farmers ratio is very wide in India i.e. 1:1000 and it is further widens due to engagement of extension workers in administrative work, official correspondence, report etc.

Advantages of Private Extension System (Sulaiman and Sadamate, 2000):

1. Reorienting public sector extension with limited and well focussed functions. More number of extension providers (institutional pluralism) resulting from active encouragement by the public sector to initiate, operate and expand.

2. More private participation leading to the availability of specialized services hitherto not available from the public system.
3. Support and control by clients leading to client orientation.

Disadvantages of Private Extension System (Vanden Ban and Hawkins, 1998):

1. Privatization may hamper free flow of information.
2. Farmers may be less interested to disseminate technologies to other farmers what they have learnt from private extension.
3. Only commercial farmers will be benefited through privatization and subsistence farmers will seldom be able to pay the fee.
4. The commercial interest of the private agencies may jeopardise the efforts of research and extension of eco-friendly and sustainable agriculture.
5. Contact between farmers and extension agents get declined.

Cyber Extension/ e-Extension

Cyber

According to Oxford dictionary the word Cyber means “relating to Information technology, the Internet and virtual reality, the Cyber space. The word has its origin from cybernetics.

Cyber space

The cyber space is the imaginary or virtual space of computer connected with each other on networks, across the globe. These computers can access information in form of text, graphics, audio, video and animation files. Software tools on network provide facilities to interactively access the information from connected services. The cyber space thus can be defined as the imaginary space behind the interconnected telecommunications and computer networks, the virtual world.

Extension

Extension stands for “the action or process of enlarging or extending something”. It could be extension of area, time or space.

E-extension and cyber extension are more or less synonymous and can be used interchangeably. Cyber extension and e-extension are extension approaches; whereas ICT is the tools by which various services are delivered to the clientele fulfilling the objectives of e-extension/ cyber extension (Mondal, 2019).

Cyber extension

According to Sharma (2005) Cyber extension can be defined as the “Extension over cyber space”. Cyber extension means “using the power of online networks, computer communications and digital interactive multimedia to facilitate dissemination

of agricultural technology”. Cyber extension includes effective use of information and communication technology, national and international information networks, internet, expert system, multimedia learning systems and computer based training systems to improve information access to the farmers, extension workers, research scientists and extension managers.

Cyber agricultural extension is an agricultural information exchange mechanism over cyber space, the imaginary space behind the interconnected computer networks through telecommunication means. It utilizes the power of networks, computer communications and interactive multimedia to facilitate information sharing mechanism (Wijekoon, 2003).

IT and ICT

IT (Information Technology) refers to computer based technology and telecommunications. IT refers to an entire industry that uses computers, networking, software and other equipment to manage information. Generally, IT departments are responsible for storing, processing, transmitting, retrieving and protecting digital information of the company.

ICT (Information Communications Technology) can be seen as an integration of IT with mediation broadcasting technologies, audio/ video processing and transmission and telephony. Therefore, ICT can be seen as an extended acronym for IT.

ICTs are those technologies that can be used to interlink information technology devices such as personal computers with communication technologies such as telephones and their telecommunication networks. The PC, laptop and tablet with e-mail and internet provides the best example (Mondal, 2019).

Information provided through Cyber extension

Cyber extension can provide large amount of information to farmers. Some of those as mentioned by Sharma are:

1. Weather: Daily information of maximum and minimum temperature, day length, direction and speed of wind, rain fall, relative humidity and weather forecasting.
2. Alert: Information regarding type of disaster, sudden change in weather, outbreak of diseases and insects etc.
3. Insurance: Detail information about insurance of farmers, his crop, animal and agricultural assets like tractors, implements and tools etc.
4. General awareness: Information about vaccination, cleanliness, health, family planning and nutrition.
5. Rural Finance: Information about micro finance and subsidy etc.
6. Education: Detail information about farmers training and educational knowledge of his children about professional and non-professional institution.

7. Animal Science: The detail regarding the local animal and well known diseases, better breeds, balanced feed, shed management, health etc.

Advantages of cyber extension

1. Information can be provided quickly to farmers.
2. Round the clock service to farmers.
3. Information can be accessed from any place on the earth.
4. Helpful in enhancing the communication efficiency.
5. Preserves the quality of message.
6. Experts can be contacted directly.
7. Per unit cost is less as compared to traditional system of extension.

Limitation of cyber extension

1. Lack of reliable telecom infrastructure in rural areas.
2. Erratic or no power supply.
3. Lack of ICT trained manpower (willing to serve) in rural areas.
4. Lack of content (locally relevant and in local language).
5. Low purchasing power of rural people.
6. Lack of holistic approach.
7. Issues of sustainability.

Farmer-Led Extension

Concept

The farmer led extension approach gives farmers the opportunity to share their experiences and practices through a method demo with fellow farmers in the area. It was noted that farmers who were successful in their farming venture have established credibility among their peers. In selecting the farmer extensionist, the primary consideration is- he should be an innovative farmer, active and hardworking, honest and credible interested in learning, accepted and committed to the community, and most importantly interested to share his knowledge and skills. Likewise a farmer extensionist must have conducted a techno demo trial and field day, preferably attended the FFS. He must also have the capacity and willingness to finance the cost of technology.

Farmer-to-Farmer extension is defined as “the provision of training by farmers to farmers, often through the creation of a structure of farmer promoters and farmer trainers.

There are 5 types of farmers-led extension:

1. Farmers to farmer

2. Farmer field school
3. The problem census
4. Problem solving approach
5. NGO government collaboration

**Paradigm shift from production-led to farmers-led extension system
(Kokate et al., 2009)**

Components	Production-led	Farmers-led
Purpose/ Objective	Transfer of production technologies	Capacity building (especially farmers extensionist), create para-professional technologies extension workers, creating or strengthening local institutions
Goal	Food self-sufficiency	Livelihood security including food, nutrition, employment to alleviate poverty Sustainability and conserving bio-diversity
Approach	Top-down, commodity and supply driven	Participatory, bottom-up and demand driven
Actors	Mostly public institutions	Pluralistic with public, private, non-government and farmers organizations as a partner rather than competitors
Mode	Mostly interpersonal/ individual approach	Integration of clients oriented on-farm participatory/ experiential learning methods supported by ICTs and media
Role of extension agents	Limited to delivery mode and feedback to research system	Facilitation of learning, building overall capacity of farmers and encouraging farmers experimentation
Linkages/ liaison	Research-Extension-Farmers	Research-Extension-Farmers Organizations (FIGs, CIGs, SHGs)
Emphasis	Information management, Production “Seed to Seed”	Knowledge management and sharing
Nature of technology	Input intensive, crop based and general recommendations as per agro-climatic zone, fixed package of information	Knowledge intensive, broad based, farming system perspective and blending with ITKs
Critical areas	Improvement, production and protection	Decision support system, integrated farming system approach, natural resource management, client group formation and community empowerment
Critical inputs	Money and material	Access to information, building human and social capital
Accountability	Mostly government	To farmers rather than donors

Market-Led Extension

Concept :

With globalization of the market, farmers need to transform themselves from mere producers-sellers in the domestic market to producers cum sellers in a wider market sense to best realize the returns on their investments, risks and efforts.

Agriculture without economy is nothing. So the market linkage is a must for agriculture. Market is congregation of prospective buyers and sellers with a common motive of trading a particular commodity. Extension is the spreading/ reaching out to the mass. Market-led extension is the agriculture and economics coupled with extension is the perfect blend for reaching at the door steps of common man with the help of technology. Market led extension is the market ward orientation of agriculture through extension.

Basics of market led extension

- Market analysis
- Market intelligence
- Use of technology

Aspects of market led extension

- Community mobilization
- Forming CIGs
- Forward and backward linkages
- Improvement of effectiveness of existing markets
- Improvement of efficiencies of marketing channels

Paradigm shift from Production-led Extension to Market-led Extension

(Adopted from MANAGE, 2008)

Aspects	Production-led extension	Market-led extension
Purpose/ Objective	Transfer of production technologies	Enabling farmers to get optimum returns out of the enterprise
Expected end results	Delivery of messages Adoption of package of practices by most of the farmers	High returns
Farmers seen as	Progressive farmer High producer	Farmer as an entrepreneur “Agripreneur”
Focus	Production / yields “Seed to seed”	Whole process as an enterprise / High returns “Rupee to Rupee”

Technology	Fixed package recommended for an agro-climatic zone covering very huge area irrespective of different farming situations	Diverse baskets of package of practices suitable to local situations/ farming systems
Extensionists' interactions	Messages Training Motivating Recommendations	Joint analysis of the issues Varied choices for adoption Consultancy
Linkages/ liaison	Research-Extension-Farmer	Research-Extension-Farmer extended by market linkages
Extensionists' role	Limited to delivery mode and feedback to research system	Enriched with market intelligence besides the TOT function Establishment of marketing and agro-processing linkages between farmer groups, markets and processors
Contact with farmers	Individual	Farmers' Interest Groups Commodity Interest Groups /SHG's
Maintenance of Records	Not much importance as the focus was on production	Very important as agriculture viewed as an enterprise to understand the cost benefit ratio and the profits generated
Information Technology support	Emphasis on production technologies	Market intelligence including likely price trends, demand position, current prices, market practices, communication net work, etc besides production technologies

Challenges to Market Led Extension:

- Gigantic size of public extension system of the public extension in the country.
- Generation of data on market intelligence would be a huge task by itself.
- The present extension system suffers from several limitations of stationery, mobility, allowances, personal development of cadres etc.
- Infrastructure challenges.
- Storage and preservation of produce
- Minimization post harvest losses.
- Capacity building of extension personnel and farmers.

Expert system

Concept :

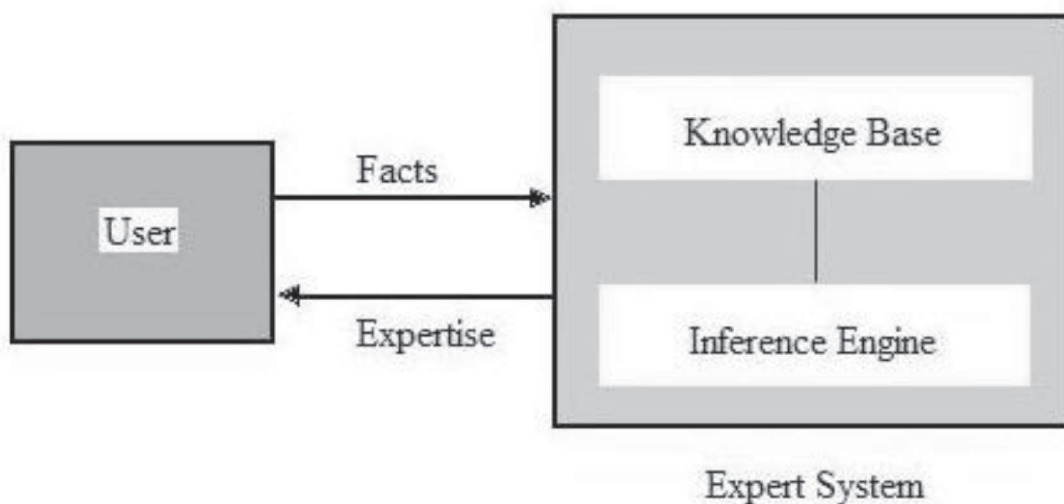
An Expert System is a software application that attempts to reproduce the performance of one or two more human experts. The concept of expert system development came from the subject domain of Artificial Intelligence (AI). The expert system is used to behave like a human expert to solve the problem with the help of pre-set conditions in the software application. The computer programme uses knowledge and inference procedures to solve problems.

Definition :

Daniel Hunt (1986) – Expert system is an intelligent computer program that uses knowledge and inferences procedures to solve problems.

According to Prasad and Babu (2008) Expert system can be defined as a tool for information generation from knowledge. It is a computer programme designed to stimulate the problem-solving behaviour of an expert in a narrow domain or discipline.

An expert system is typically composed of at least three primary components. These are the inference engine, the knowledge base, and the User interface.



- Knowledge base - This component consists of data, facts and rules for a certain topic, industry or skill, usually equivalent to that of a human expert.
- Inference engine - This component uses the facts and rules in the knowledge base to find and learn new knowledge or patterns. It is responsible for gathering the information from the user, by asking various questions and applying it wherever necessary. It seeks information and relationships from the knowledge base and to provide answers, predictions and suggestions the way a human expert would.
- User interface - A user interface is the method by which the expert system interacts with a user.

Expert systems use information technology to gain and use human expertise. Obviously, this can be very beneficial to organizations. **Expert Systems can:**

1. Provide answers for decisions, processes and tasks that are repetitive
2. Hold huge amounts of information
3. Minimize training costs of employees

4. Centralize the decision making process
5. Make things more efficient by reducing the time needed to solve problems
6. Combine various human expert intelligences
7. Reduce the number of human errors
8. Provide strategic and comparative advantages that may create problems for competitors
9. Look over transactions that human experts may not think of

Objectives (Mondal, 2019)

The main objectives of developing expert system in agriculture are:

1. To enhance the performance of agricultural extension personnel and farmers.
2. To make farming more efficient and profitable.
3. To reduce the time required in solving the problems and performing the routine tasks of extension workers.
4. To maintain the expert system by continuously upgrading the database.

Difference between Conventional Extension and Expert System Extension (Bahalet al., 2004)

S. No.	Conventional Extension	Expert System of Extension
1	Universal approachability of same information is a problem	Universal approachability of same information is possible
2	Information is given whatever is available without considering needs and resources	Information is chosen based on their needs and resources
3	No Cost benefit analysis	Cost benefit analysis
4	Information flow depends on availability of agent	Information through Cyber Cafe at any place at any time
5	Require users to draw their own conclusion from facts	Conclusion is drawn based on the decision given by the expert

Some examples of expert system in India

1. Rice-Crop: The MANAGE has developed an expert system to diagnose pests and diseases for rice crop and suggest preventive/curative measures. The rice crop doctor illustrates the use of expert-systems broadly in the area of agriculture and more specifically in the area of rice production through development of a prototype, taking into consideration a few major pests and diseases and some deficiency problems limiting rice yield.

2. Expert System on Wheat Crop Management - EXOWHEM Expert system on wheat crop management is an expert system which includes all aspects of wheat production on India. The main goal of the system is to provide the users with all kinds of suggestions and advices regarding the wheat crop production. The system is designed as web based application by IASRI New Delhi that covers agricultural operations, fertilizer application, variety selection, as well as the economic benefits. It is purely a rule based expert system.
3. AMRAPALIKA is an Expert System for the diagnosis of pests, diseases, and disorders in Indian Mango. The system makes diagnosis on the basis of response/responses of the user made against queries related to particular disease symptoms. A rule-based expert system is developed using Expert System Shell for Text Animation (ESTA). The knowledge base of the system contains knowledge about symptoms and remedies of 14 diseases of Indian mango tree appearing during fruiting season and non-fruiting season.
4. e-Sagu is a tool for IT-based personalized Agro-Advisory system. ("Sagu" means cultivation in Telgu language). It aims to improve farm productivity by delivering high quality personalized (farm-specific) agro-expert advice in a timely manner to each farm at the farmer's door-steps without farmer asking a question. In e-Sagu, the development of IT such as (Database, Internet, and Digital Photography) is extended to improve the performance of agricultural extension services. The e-Sagu system was implemented during 2004 by delivering advisory to 1051 cotton farms for the farmer of three villages in Warangal district in Andhra Pradesh.

Advantages:

The advantages of expert system are:

1. Expert Systems are useful in many aspects and ready to use by end user as advisory system.
2. Provides consistent answers for repetitive decisions, processes and tasks.
3. Holds and maintains significant levels of information.
4. Encourages human expert to clarify and finalize the logic of their decision-making.
5. Never "forgets" to ask a question, as a human might.
6. They can respond at great speed due to the inherent advantages of computers over humans.
7. Unlike humans, they do not get tense, fatigue or panic and work steadily during emergency situations.

Disadvantages:

However, there are also disadvantages to expert systems, such as:

1. Lacks common sense needed in some decision making.
2. Cannot make creative responses as human expert would in unusual circumstances.
3. Not capable of explaining the logic and reasoning behind a decision
4. Cannot adopt to changing environments, unless knowledge base is changed

Reference:

1. De, D. and Jirli, B. (2010). A Handbook of Extension Education. Jodhpur, Agrobios (India).
2. Govind, S., Tamilselvi, G. and Meenambigai, J. (2011). Extension Education and Rural Development, Jodhpur, Agrobios (India).
3. Joy, D. and Sreekumar, K. (2014). A Survey of Expert System in Agriculture. International Journal of Computer Science and Information Technologies, 5 (6): 7861-7864.
4. Mishra, S. and Akankasha. 2014. Expert Systems In Agriculture: An overview. International Journal of Science Technology & Engineering, 1(5): 45-49.
5. Mondal, S. (2018). Communication Skills and Personality Development, Entrepreneurship Development and Business Communication. New Delhi, Kalyani publishers.
6. Mondal, S. (2019). Fundamentals of Agricultural Extension Education. New Delhi. Kalyani publishers,
7. Sulaiman, V.R. and Sadamate, V.V. (2000) 'Privatising agricultural extension in India', Policy Paper 10. New Delhi: National Centre for Agricultural Economics and Policy Research.
8. The Computer Revolution/Artificial Intelligence/Expert Systems. Retrieved from https://en.m.wikibooks.org/wiki/The_Computer_Revolution/Artificial_Intelligence/Expert_Systems

S.P. SinghAssistant Professor
College of Agriculture, Tikamgarh
JNKVV, Jabalpur

Rural development is a comprehensive term which essentially focuses on action for the development of area which is lagging behind in overall development of village economy and improving the quality of life and economic well-being of people living in relatively isolated and sparsely populated areas. Rural development has traditionally centered on the exploitation of land-intensive natural resources such as agriculture and forestry. As a discipline, it is multidisciplinary in nature representing an interaction of agricultural, social, behavior and management of sciences

So, there are various types of approaches to rural development like Sectoral Approach, Area Development Approach, Integrated Development Approach, Growth Center Approach and Community-driven development (CDD) or Approach.

Rural development usually relates to the method of enhancing the quality of life and financial well-being of an individual specifically living in populated and remote areas. Traditionally rural development is centered on the misuse of land-intensive natural resources such as forestry & agriculture.

Rural development can be defined as, helping rural people set the priorities in their own communities through effective and democratic bodies, by providing the local capacity; investment in basic infrastructure and social services, justice, equity and security, dealing with the security of the rural population, especially that of women

- A small population size.
- A generally low population density.
- A lower cost of living.
- A smaller choice when it comes to shopping, medical services, and so on.
- Lower wages and more poverty.
- Lots of nature and natural resources, farming, and ranch land.
- An aging population.

Definitions:

- ❖ According to Robert chambers, rural development is a strategy to enable a specific group of people, poor rural women and men to gain for themselves and their children more of what they want and need.

- ❖ Rural development as the improvement in the living standard of the rural dwellers by engaging them in productive activities such as the establishment of rural industries that will increase their income.
- ❖ Rural development may be defined in many ways depending upon our focus and attention. However, successful rural development aims at improving the quality of life of the poor rural people through technological intervention, forming, modifying or strengthening new and old institutions and organizations for building their capacities, providing better communication facilities and implementing government policies and programmes

Integrated Rural Development Programme

Integrated Rural Development Programme was a major programme of poverty alleviation and rural development. The meaning of the term integrated, basically implies the provision of a package of interlinked programmes mutually supporting and reinforcing so that a one-dimensional approach to development is avoided so, the integration is horizontal, vertical, spatial and temporal.

Integration covers four principal dimensions:

- i. Integration of sectoral programmes.
- ii. Spatial integration.
- iii. Integration of social and economic processes.
- iv. The policies with a view to achieving a better fit between growth, removal of poverty and employment generation.

Specifically, it involves a sharp focus on target groups, comprising small and marginal farmers, agricultural laborers and rural artisans, and an extremely location specific planning in rural areas.

- IRDP was envisaged to help small and marginal farmers, agricultural laborers and rural artisans.
- The approaches followed for SFDA, MFAL, DPAP and CAD programmes were proposed to be utilized according to their relevance's in particular areas to generate employment opportunities and increase production.

Objectives

The main objectives were creating assets, employment, increased income removal of poverty and minimizing inequality.

IRD Programmes

- Programmes of agriculture development including efficient utilization of land and water resources with scientific technology.
- Programmes of animal husbandry as a subsidiary occupation directed mainly to

small farmers and agricultural labour households.

- Programmes of marine fishery including harvesting of natural resources through trawlers, mechanized country boats.
- Programmes of social forestry and farm forestry.
- Programmes of village and cottage industries including handlooms, sericulture and beekeeping as important occupations for the artisan classes of the rural population.
- Programme of service sector of the rural economy as self-employment for poorer families.
- Programmes for skill formation and mobility of labour to meet the needs of organized labour for development works.
- The IRDP concept was launched in 1978-79 in 2300 blocks in the country and it was extended to all blocks in the country with effect from 2 Oct. 1980. Simultaneously SFDA's were merged with IRDP.

Target Beneficiaries of IRDP

- IRDP focuses mainly on providing assistance (subsidiary and institutional credit) to selected families for income generating assets in order to range their incomes through self employment so that they can move above the poverty line.
- IRDP follows the principle of the "poorer of the poor first". Hence, although the poverty line (PL) has been defined as Rs 6,400 as annual family income, only those families with an annual income of less than Rs 4,800 is eligible for assistance under this programme.

The target group includes:

- Small farmers, marginal farmers, agricultural labourers rural artisans and other families which are below the poverty line.
- At least 30 per cent of the families were to be drawn from SC's/STs
- At least 30 per cent of the beneficiaries were to be women.

Implementation and funding of IRDP

- The District Rural Development Agency (DRDA) was created to function at the district level as a single agency for the implementation of IRDP, DPAP, DPP etc., to implement integrated rural development.
- Funds for the programme were released to DRDA's on the stipulation that expenditure should be equally shared by the centre and the state.

Short Comings/Drawbacks and Limitations of IRDP :

- The resources provided were inadequate.
- There was a large number of over dues.

- Poor quality of assets provided to the beneficiaries.
- The follow up of the beneficiaries was inadequate.
- Lack of training facilities to small and marginal farmers.

Training of Rural Youth for Self Employment (TRYSEM)

TRYSEM was launched in 1979 as a separate national scheme for training rural youth for self employment. The compelling reasons for launching the programme being the huge backlog of unemployment and under employment among the rural youth. Forty youth, both men and women were to be selected in each block and trained in both skill development and entrepreneurship to enable them to become self-employed. It was generating activities in the rural areas; the influx of rural youth to urban areas could curb. Moreover, local needs could also meet with local resources, thereby giving a fillip to rural development.

Objectives of TRYSEM:

- To provide technical skills to rural youth especially to those from the below poverty line.
- To enable rural youngsters to take up self-employment opportunities in larger fields of agriculture and various allied activities.

Features of TRYSEM:

- TRYSEM became the “self employment for youth” component of IRDP and was introduced in all the 5000 blocks in the country.
- An identified youth will be put through a period of training either in a training institution or under a master crafts men.
- Duration of training is flexible depending upon types of courses.
- Trainers are given stipend and a tool kit.
- Successful trainee is eligible to receive a subsidiary/credit/income generating asset under IRDP.
- At least 50 percent of the youth to be trained for self-employment either for secondary or tertiary sector activity.
- Wage employment training was to be in the secondary and tertiary sectors.
- BDO selects the eligible youth belonging to the target group with the help of VLWs.
- The identification of locations is done by the DRDA in consultation with district level officers of different departments.
- DRDA prepares a resource inventory for training facilities like ITI's poly techniques, KVI's, KVK's, NYK's etc.,

- DRDA is responsible for the implementation of TRYSEM.

Beneficiaries of TRYSEM:

- Members of the poorest family first
- Priority should be given to members of SCs and STs.
- At least 1/3 of candidates should be women.
- Preference should be given to persons who have completed the 12 month course under the National Adult Education Programme.

Short coming of TRYSEM:

- Implementation was generally uneven.
- Training lacked appropriate technology in the package provided.
- In the selection of trade, self-employment opportunities and financial viability were not adequately assessed.
- Assistance in the provision of raw materials and marketing has been lacking.
- Every district did not have training centers of TRYSEM.
- In a large number of cases, the assistance provided to TRYSEM trainees from IRDP projects had no link to the training they had received.

Jawahar Rozgar Yojana (JRY)

The finance minister announced a new scheme which aimed at providing employment in backward districts with chronic poverty and unemployment. This new scheme was named as Jawaharlal Nehru Rozgar Yojana. It was also started in 1979. The NREP and RLEGP were merged into one programme and implemented as a centrally sponsored scheme with a 80:20 sharing funds between the centre and the states. Later it was called as JRY.

Objectives :

- To generate additional gainful employment for the unemployed rural youth.
- To create productive community assets which would benefit the poor sections thus, strengthening the rural infrastructure.
- To improve the overall quality of life in areas.

Main features of JRY :

- The target group comprises persons living below poverty line.
- Preference was given to SCs and STs among the poor.
- At least 30 per cent of the beneficiaries were women.
- All works which lead to creation of durable community assets can be taken up.

- Higher priority is to be given to works which are required as infrastructure under poverty alleviation programmes.
- For social forestry works the participation of non-governmental organizations (NGOS) is ought.
- DRDA's/ Zilla Parishads are responsible for implementation of JRY at district level and village panchayats at the Gram Panchayats Level.

Swarnjayanti Gram Swarozgar Yojana (SGSY)

This scheme was launched after a review and restructuring of the previous Integrated Rural Development Program (IRDP) and allied schemes like Training of Rural Youth for Self Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Million Wells Scheme (MWS), Supply of Improved Toolkits to Rural Artisans (SITRA) & Ganga Kalyan Yojna. SGSY was launched on April 1, 1999 and is the only self employment Programme currently being implemented. The objective of the SGSY is to bring the assisted Swarozgaris above the poverty line by providing them income generating assets through bank credit and government subsidy. The scheme is being implemented on a 75:25 cost sharing between the Centre and the State.

In the Union Budget 2009-10, Allocations of Rs. 2350 Crore was made for establishing micro-enterprises in rural areas through activity clusters and group approach under Swarnjayanti Gram Swarozgar Yojana. At least 50% of the Swarozgaris will be SCs/STs, 40% women and 3% disabled.

Objectives:

- Focused approach to poverty alleviation by setting up a large number of micro enterprises in rural areas of our country. Capitalising group lending.
- Overcoming the problem of running multiple programmes overlapping each other. A holistic programme of micro enterprises covering all aspects of self employment which includes organising rural poor into self-help groups. Integration of various agencies like District Rural Development Agencies, Bank, Line Departments., Panchayati Raj Institutions, NGOs etc. Bring the assisted poor family above BPL by providing them a mix of income generating assets like bank credit and government subsidy.
- National livelihood Mission: India's Ministry of Rural Development is proposing to re-design the swarn jayanti gram Swarozgar Yojana (sasy) into National Livelihood Mission (NRLM).

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was launched in February 2006. Undoubtedly, it is one of the largest, most ambitious and wide ranging social security programmes in the world.

The preamble to the act reads as under –

An act to provide for the enhancement of livelihood security for the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work and for matters connected there with or incidental there to.'

The Act was notified in 200 rural districts in its first phase of implementation (with effect from Feb 2, 2006). In financial year 2007-08, it was extended to additional 130 districts. The remaining districts were notified under MGNREGA with effect from April 1, 2008.

Since 2008, MGNREGA has covered the whole of India barring the districts that have hundred percent urban populations.

Mandate and Objectives:

The mandate of the act is to provide 100 days of guaranteed wage employment in a financial year (FY) to every rural household whose adult members volunteer to do unskilled manual work. In this Act "Adult" means a person who has completed his eighteenth year of age and a "household" is defined as members of a family related to each other by blood, marriage or adoption and normally residing together and sharing meals.

The Objectives of the Programme Includes-

- Ensuring social protection for the most vulnerable sections of people residing in rural India through wage employment opportunities. Chapter III of the Act calls upon every State Government to make a Scheme (National Rural Employment Guarantee Scheme, NREGS) to give effect to this objective.
- Ensuring livelihood security to the poor through creation of durable assets which would lead to sustainable development and in due course diminish the dependence of rural folk on schemes such as NREGS.
- MGNREGA- Guidelines 2013 provide for a number of labour intensive works which can be undertaken in the NREGS so as to create valuable assets leading to improved water security, soil conservation, higher land productivity, strengthening drought proofing and flood control.
- Ensuring empowerment of the marginalized communities in rural India, especially women, schedule castes (SCs) and scheduled tribes (STs) and the aged through the rights based programme. MGNREGA envisions 100 days of guaranteed employment as a matter of right to every rural household.
- Strengthening decentralized, participatory planning and execution through convergence of various anti-poverty and livelihood initiatives.
- The scheme to begin with aimed to merge Sampoorna Gramin Rojgar Yojana'

(SGRY) and National Food for Work program (NFWP) and bring the provisions of these two programmes within the ambit of NREGS.

- Deepening democracy at the grassroots by strengthening the Panchayati Raj Institutions by ensuring planning, implementation and supervision of the programme at the lowest levels. Panchayati Raj Institutions (PRI) are systems of Local Government in rural India at three levels of administration; village, block and district. Gram Panchayat (GP) is a primary unit of the three-tier structure of local self-governance in rural India. At the intermediate level of PRIs lies the 'Block'. A Block means the community development area within a district comprising a group of Panchayats. 'Block Samiti' is the executive body at the intermediate level, while 'Zila Parishad' is the executive body at the district level and lies at the top of PRIs in India. The MGNREGA envisages Gram Panchayat, Block Samiti and Zila Parishad as important hierarchical levels for the purpose of implementation of the scheme, enjoining certain duties upon the State and Central Governments at the same time.
- Stemming the tide of migration of rural population to urban areas through the availability of work in or near the village. Provision of decent work at reasonably good wages is one of the prime objectives of the Act.

Salient Features of The Act:

- **Registration:** Adult members of Rural Household willing to do unskilled manual work may apply for registration either orally or in writing to the concerned Gram Panchayat. It is noteworthy that the unit of registration is household (HH). The act aims to provide 100 days of employment to a rural household.
- **Job Card:** It is the duty of the Gram Panchayat headed by the 'Pradhan' or 'Sarpanch' to verify the place of residence, age of the members of a household etc. and to issue the job card (JC) to the household after due registration.

Job card is a very important document and forms the basis for identification, demanding employment and updating the number of days for which employment was provided and wages paid. A Job Card is to have a unique identification number and the Act provides that it should be issued within 15 days of application for registration.

- **Demand for Work:** A written application is to be made by any of the registered members of the household to the GP or Block Office stating the time period for which the work is sought. It is incumbent on the part of the GP to acknowledge the receipt of written application against which the guarantee to provide employment within 15 days operates. The application can be filed individually or in groups and must be for at least fourteen days of continuous work. Multiple applications can be made in advance provided the periods for which employment is sought don't overlap. Applicants provided with work are to be notified in writing or by

public notice at the office of Gram Panchayat.

- **Unemployment Allowance:** The Gram Panchayat and the Programme Officers shall ensure that every applicant shall be provided unskilled labour work as per provisions within 15 days of application for work or from the date from which work was sought whichever is later. Priority shall be given to women in such a way that one third of the beneficiaries shall be women who have registered and requested for work. In case employment is not provided within 15 days, the State (as per the Act) will pay an unemployment allowances to the beneficiary. The rate of unemployment allowance shall not be less than one fourth of the wage rate for the first thirty days during the financial year and not less than one half of the wage rate for the remaining period of the financial year till the applicant or any other number of his household is called to report for work or the allowance in lump sum becomes equal to the amount in terms of wages for 100 days of work for the financial year.
- **Wages:** Wages are to be paid as per the state wise Government of India (GOI) notified MGNREGA wages. Wages are to be paid according to piece rate as per the Schedule of Rates (SORs) without any gender bias.

Planning, Implementation and Monitoring:

The Panchayats at district, intermediate and village levels are the principal authorities for planning and implementation of the scheme made under this Act.

- A) The functions of the Panchayats at the district level are :-
 - i) To finalize and approve block wise shelf of projects to be taken up under the scheme.
 - ii) To supervise and monitor the projects taken up at the block and district level.
- **Central and State Employment Guarantee Councils :** In order to monitor the implementation of the scheme at the State and Central Government levels, separate Central and State employment Guarantee Councils have been set up. Additionally these councils perform advisory functions on all matters concerning the scheme to the respective Governments and prepare annual reports pertaining to the scheme to be submitted before the State legislative.

References :

1. De, D. and Jirli, B. (2010). A Handbook of Extension Education. Agrobios (India), Jodhpur.
2. Mondal, S. (2019). Fundamentals of Agricultural Extension Education. Kalyani publishers, New Delhi.

Community Development

Nahar Singh Khedkar

Assitant Professor,
Deptt. of Extension Education,
College of Agriculture, Ganjbasoda
JNKVV, Jabalpur

India is basically a country of villagers. Rural people of this country are poor and conservative. They suffer from unemployment and under employment and are not able to have normal standard of living. If India has made real progress, this rural society has to progress. It means that the rural people have to be educated, make conscious of the new development of the society and also encourage to take up various types of new methods of farming. Community Development is intended at rural reconstruction and development of the rural life. The Community Development aimed at bringing about over all development of the village and the society. Community development is made up of two words. Community and Development-

Community: is a group of people who live in a geographical area and have an interest in each other for the purpose of making a living.

Development: connotes growth or maturation. It implies gradual and sequential phases of change. It refers to the upward or increasing differentiation.

Community Development: It is a movement designed to promote better living for the community with the active participation and/or the initiative at the community.

It is a method by which people of villages are involved in helping to improve their own economic and social conditions and thereby they become more effective groups in programmes of their national development.

It is a process of change by which efforts of people are united with those of group authorities to improve their economic, social and cultural conditions of communities, into the life of the nation and to enable them to contribute fully to national programmes.

“The most commonly understood meaning of the Community Development is to strive for the development of the Community at all levels, economic, cultural and social.”

Definition

1. Community Development is a process whereby the efforts of government are united with those of the people to improve the social, cultural, and economic conditions in communities.
2. The United Nations (1956), defined Community Development as the process by which the efforts of the people themselves are united with those governmental authorities to improve the economic, social and cultural conditions of the

communities, to integrate, these communities into the life of the nation and to enable them to contribute fully to national progress.

Concept of Community Development

The term Community Development appears to have originated from Cambridge in England. In 1948, the Cambridge Summer Conference on African Administration recommended this term defining it as a movement designed to promote better living for the whole community with the active participation, if possible on the initiative of the community, but if this initiative is not forthcoming spontaneously, by the use of techniques for arousing and stimulating it in order to secure its active and enthusiastic response to the movement.

Taylor and others (1965), conceived Community Development as the method by which people who live in local villages or communities are involved in helping to improve their own economics and social conditions and thereby become effective working groups in programmes of national development. The adoption of this method is based upon a knowledge that villagers who in the past have seemed to be lethargic and not interested in change, will become dynamic if they are permitted to take decisions concerning, exercise responsibility for, and are helped to carry out projects and programmes for improvements in their own villages.

Mukherji (1967), summed up these concept by stating that Community Development is a process of change from the traditional way of living of rural communities to progressive ways of living, as a method by which people can be assisted to develop themselves on their own capacity and resources, as a programme for accomplishing certain activities in fields concerning the welfare of the rural people, and as a movement for progress with a certain ideological content.

Basic ideas inherent in the concept are:-

- 1) Community development is focused on the development of the people.
- 2) It is a process, not an event.
- 3) It has organization.
- 4) It is a dynamic, unified problem – solving approach and
- 5) Education of the people is one of the end products of community development.

Philosophy

The philosophy of community development is based on the hypothesis that rural people are intelligent, are interested in obtaining new information and at the same time keep to use this information for the welfare of the community. There is latent goodwill in the people which need to be directed for the good of the community. Democratic approach is to be used in the programmes. The basic philosophy is directed towards changing the outlook of the people by educating them. The education is not mere transfer

of information but to transform the people by bringing about desired changes in their knowledge, attitude and skills. This educational contents are further used in solving the problem of the community.

Principles of Community Development

Top ten common principles widely used to Community Development are as follows-

- 1. Community Participation:** Everyone has a valuable contribution to make and community members can join it at any level. Volunteers and community members are integral to the decision- making, evaluation, provision, participation and direction setting at all levels of the organisation.
- 2. Community Ownership:** Members are actively involved in decision- making and have ownership of the centre's activities. A voluntary management committee comprising elected members who live, work or participate in the local community governs each centre. The governance model is development centre participants and the wider community, thus generating a range of community benefits.
- 3. Empowerment:** A process that respects, values and enhances people's ability to have control over their lives is put into practice. This process encourages people to meet their needs and aspirations in a self-aware and informed way which takes advantage of their skills, experience and potential. Change and growth occurs through informing and empowering individuals and communities.
- 4. Lifelong Learning:** Learning is integrated into all aspects of centre activities thus building and supporting the personal skills, knowledge, abilities and resilience of the people. They develop the health, wellbeing and connection of people and their families, through formal and informal pathways in education, employment and self-development.
- 5. Inclusion:** The diverse contributions that people make are valued, no matter what their background of varying abilities. Individual and local needs are acknowledged and addressed, often through informal interaction. Identifying these needs and issues through a range of methods is instrumental to informing the planning and development of activities and programs.
- 6. Access and Equity:** Centers are accessible and welcoming. They promote a fairer distribution of economic resources and power between people by aiming to improve the social, environmental, economic and cultural infrastructures within their communities.
- 7. Social Action:** Internal and external factors that impact on the local community are analysed and relationships between individuals, groups and organisation and within the community transformed through collective action.

8. **Advocacy:** In meeting individual and group needs, centres act with, or on behalf of, community members.
9. **Networking:** Linking, forming alliances, collaborating and working with individuals, groups, other agencies, government and business are crucial, with interaction between formal and informal methods to achieve connections within the local communities.
10. **Self Help:** Individuals are supported in coming together in a caring group environment to share information, knowledge, skills and life experience in order that each participant can reach their own personal goals.

References:

1. (DOC) Community Development Top Ten Principles, Mohammad Ariful Islam, https://www.academia.edu/33663775/Community_Developme
2. Dimensions of Agriculture Extension, Author TNAU, Tamil Nadu, www.AgriMoon.com or <https://www/www.agrimoon/dimensions-of-agriculture-extension>
3. <https://www.scribd.com/doc/50350150/Principles-of-Community-Development-Community-Work-and-Community-Organization>
4. Ray, G.L. (1999). Extension Communication and Management, Naya Prakash, Calcutta.
5. Supe, S.V. (2009). A Text Book of Extension Education, Agrotech Publishing Academy, Udaipur

Arvind SaxenaAssociate Professor
College of Agriculture,
GanjBasoda ,Vidisha JNKVV, Jabalpur

The fundamental objective of extension is to develop the rural people economically, socially and culturally by means of education. In this one important objective is to develop leadership among people and help them in organizing group to solve their problems. Second objective is to transmit feedback information for solving management problems. Both are important objective and before fulfillment of their objectives the leadership concept should be clear, particularly rural leadership. So many, innovations programmes, requires transfer of technology that create progressive, improved and skilled based social atmosphere without any hindrance and equality level at rural families, acquainting them with the new knowledge and orienting them towards the acceptance of the innovations, is indeed a difficult task which a few extension personnel can hardly achieve, they take the help of local leaders. Earlier experience showed a leadership which can assume responsibility in accelerating the new strategy of agriculture production. It is necessary that the right concept of farm leadership should be properly understood by the extension personnel.

Concept and Meaning of leadership

Leadership is basically a group phenomenon. A group consists of two or more people who interact together for fulfillment of common goals. In any given group there is pattern of all reactions and interaction among members. Relative strength of interpersonal relationship of the members of a group determines leadership.

The Greek root of the term leader, is associated with verbs “archin” meaning to begin, lead and rule; and “pratein” meaning to pass through, achieve and finish. This means that leader is one who begins and work is finished by followers. The latin verbs associated with leadership are agree (to lead/set in motion) and “gerere” (to bear). Thus, leader is supposedly one who exercises influence over others. This influence helps in directing activities of others.

A leader is a person who has been spontaneously considered, or chosen, as being influential in a specific situation or situations.

Leadership is the process of influencing the behavior of the individual in a given situation or situations.

Leadership is the activity of influencing people to cooperate towards some goal which they come to find desirable.

Leadership as an effort to direct the behavior of others towards a particular and thus it can be said that

- Leadership is a matter of influencing people in the group.
- A Leader is able to gain cooperation of members in achieving the goal.
- The decision of people to follow the leader is voluntary.

Importance of Rural Leadership

The utilization of rural leaders is essential because of the following reasons;

1. Extension has a long tradition of using leader in extension work. Extension worker as an outsider may not have complete knowledge about different aspects of village community nor they are supposed to have similar perceptions and feelings about village problems as local people may have. Thus, there are good reasons to use such people who belong to the community.
2. Leaders by virtue of their influences can convey message of development more convincingly in the people's language. They can use arguments and style of presentation most appropriate for the target population. They can also help to get social sanction for development. Besides, they can also serve as mouthpiece of people before extension workers; they can explain elaborately the needs and aspirations of people.
3. Number of extension workers is proportionately far less than required. Thus use of leader can help to multiply effects of extension work conveniently and convincingly. Leaders can help in enlisting participation of people in programmes of their own development. It is possible to organize around concrete problems. Leaders can use their influence and skills to bring people together and empower them to take action for their development.
4. Villages in India are still haunted by deep rooted beliefs, costumes, superstitions, and ignorance which influence development negatively. It calls for different types of efforts to overcome social barriers. Leaders, if positively inclined, can play prominent roles in master minding development in right earnest.

Every social group has certain people who command respect. They have influence and undisputed following.

Their opinions count. They have people flock around them for information, advice or inspiration or otherwise influence members to action. Such people are called as leaders and such activity is called as leadership. They are also known as power holders, men of power, power centers and power elite. If they are somehow linked with development programmes, the task of development would become very easy.

Leadership is an act that causes others to act or respond in a shared direction. A rural leader is the one who can inspire, persuade, influence and motivate useful changes.

Bringing about change is a critical goal because most improvements demand a departure from routine ways. A rural leader creates a vision for others and then directs them towards achieving that. A rural leader has followers who have confidence in him and give him support and commitment to a goal. This is what leadership really means.

Leadership in rural areas is key dynamic forces that motivates and capture the cooperation of people. A rural leader must have a magnetic personality. Persuasion is another key aspect of leader's role. A leader must, often, get people to change their minds or take actions they had not considered. Influence is almost synonymous with leadership. Leadership is often defined as the process of influencing others to achieve objectives. He influences others to accomplish such things as taking on more responsibility, achieving high quality standards and raising ethical standards. Many leaders, unfortunately in rural areas influence group members to engage in negative, unethical acts that hurt the community in the long run.

Leaders have to motivate their followers to work harder. Top rural leaders are generally tough as their jobs are immensely demanding of time, concentration, sheer grinding brain power and physically tiring. He is supposed to make decisions on his own, strong willed, ambitious, energetic and motivated by power. He is full of courage, emotionally and physically strong and has ability to empathies with others. He is sensitive to other people's needs, values, cultures, beliefs and tradition. He takes on responsibility and is credible. He is dependable and loyal to his followers.

A good rural leader has all the relevant knowledge, keen mind, analytical ability. He has good interpersonal skill with sound relationships with rural people. He is full of energy.

Charismatic Rural Leaders

Charisma comes from a combination of emotional expressiveness, self confidence, determination and freedom from inner conflict. They have strong conviction in the essential rightness of their own convictions. They are radical unconventional, risk taking, visionary, entrepreneurial and exemplary. There is intense emotional attachment to them on the part of their followers which goes beyond such things as trust, respect or admiration to embrace awe, devotion and loyalty. It is most important ingredient of leadership. Rural charismatic leaders make their followers more productive.

The effective leader is the one who sees leadership as responsibility rather than privilege. They have integrity and consistency. They are usually modest losing no opportunity to stress that real achievement has come from team work and not from inspiration of just one individual.

Why people like to become leader?

The main advantage of being a leader is that it gives you a feeling of power and prestige. The prestige comes from the fact that so many people admire leaders. Leaders are in a position to help others, thereby finding their jobs satisfying. Rural leaders are very well respected and control resources of the village and those coming from outside.

Rural leadership does make a difference to the performance of individuals, groups and organizations. It helps to build teams and generates pride in collective achievements. It brings about changes in people's attitude and behavior as a consequence of interaction between leaders and followers. Leadership is widely distributed. Rural leaders are important because they are involved in maintaining traditional values in the face of challenges from those who wish to bring change in enabling groups of people to undue hardships.

It shall not be wrong to say that it is almost impossible to have effective rural programme without involving rural leaders. They have to be involved in the programme from day one at planning stage. They are the one who will tell you how successful you will be in the programme implementations. They will give suggestions about how, where and what to change in the programme. They will be the ones who will explain in their own way to project. It is essential that development agencies develop an instant rapport with rural leaders and show the true picture to them. The good leader tends to share decision making and share responsibility. The good rural leader is visionary and is able to develop a shared vision with his followers.

Rural leaders help you to overcome obstacles and setbacks. With his unique communication skills, he talks to villagers and solves problems. This is because he is connected to the group in every possible way and empathies to them in his unique style.

Rural leaders are important since they help their followers to decide an important issue. They give direction for group action. They resort to group decision making, participative decision making and consensus decision making. A consensus decision making means that the leader encourages group discussion about an issue and then makes a decision that reflects general agreement and is supported by group members.

Types of Leaders

There are two broad categories of leaders in villages viz; traditional and emergent leaders. Traditional leaders command influence on the basis of land, wealth or certain inherited status belonging to tradition like caste leaders, land lord, priest. Emergent leaders are those persons who command influence on the basis of their personal qualities, specialization or office of power, political influence or such other acquired traits such as progressive farmers, head of village panchayat, cooperatives or member of a voluntary or political organization.

Traditional leaders

They are respected because they possess wealth or power to conduct social rituals/ceremonies. Thus, they fulfill social and religious needs of the people. They uphold those values. There are many other terms to indicate various types of traditional leaders as given below;

Types of Leaders

(I) Traditional leaders: Emerge out of tradition and stick to tradition, static type

and do not accept change, have vested interests. e.g Tribal chief.

- (ii) **Caste leaders:** Followers belong to the same caste as that of leaders. Caste leader provides leadership in matters related to caste.
- (iii) **Religious leaders:** Become leader by preaching religious doctrines or performing religious acts or rituals. They advise followers on religious matters.
- (iv) **Political leaders:** Arise out of the political system. They are always vocal and have good influence on mass of people.
- (v) **Functional leaders:** Recognized because of their specialized knowledge and function in the society. E.g. Professional like teachers, doctors etc.
- (iv) **Opinion leaders:** These are the people to whom other people go for opinion or advice on various issues. Also act as legitimate and influence decision making of the followers.

LEADERSHIP

L	Loyalty
E	Enthusiasm
A	Adventurous
D	Decisiveness
E	Endurance
R	Robust
S	Sympathy
H	Honour
I	Initiative
P	Personality

Classification of Leadership

1. Autocratic leadership: Determines all policies, activities and goals of the organization. Takes no part in work except in conducting meeting, telling others what to do.
2. Democratic leadership: Produces a shared leadership that permits a feeling of satisfaction and achievement.
3. Free rein leadership: Leaders gives minimum guidance. Members have almost complete freedom operates with a minimum of rules.

Role of a leader

1. To coordinate the efforts of the group to achieve its goals.
2. To establish proper social climate in the group.
3. Leaders assist the group to organize themselves.
4. To promote or to spread of message of extension agencies.
5. Help in planning and execution of development programme.
6. They act as demonstrators for the innovations.
7. Create inter and intra group.
8. They act as spokesman.
9. Develop self confidence among members.
10. Take active part in organising and functioning of rural institutions.

Methods of Selection of leaders

- Socio-metric stars
- Active participants
- Social participation
- Informal meeting
- Formal meeting
- Persons with reputation
- Self rating technique
- Informal rating

Advantages of leaders

- A leader fully understands about the area.
- A leader provides support to members.
- He takes responsibility.
- Always open to possibility of change.
- Building morale in the society.

Limitations

- The vocal and powerful members become dominant thus creating sense of inequality.
- Policies are agreed upon verbally in groups which do not automatically provide an answer to every question that arise.

- Problem of an individual who refuses to conform to decisions of group are neglected.
- The leader takes decisions on their behalf which may not be considerable/acceptable to all.

References:-

1. Barner, R. (2000). Five steps to leadership competencies. *Training & Development*, 54(3), 47-51.
2. Beeman, C.E.; Cheek, J.G.; McGhee, M.B.; & Grygotis, E.M. (1979). Professional competencies needed by Extension agents in the Florida Cooperative Extension Service: A report of research. Gainesville: University of Florida, Institute of Food and Agricultural Sciences.
3. Betts, S.C.; Firth, A.M.; Watters, S.; & Shepherd, S. (1996). Families-at-risk. *Journal of Extension*, 34(2)
4. Cooper, A. W., & Graham, D. L. (2001). Competencies needed to be successful county agents and county supervisors. *Journal of Extension*, 39(1), Retrieved March 22, 2003 from <http://www.joe.org/joe/2001february/rb2.html>
5. Fulmer, R. M., & Wagner, S. (1999). Leadership: Lessons from the best. *Training & Development*, 53(3), 29-32.

Parvez RajanAssistant Professor
Department of Extension Education,
College of Agriculture, JNKVV, Jabalpur

Administration: Concept and Definition

Administration is the guidance, leadership and control of the efforts of a group of persons towards some common goals. Administration implies conscientious efforts directed towards organizing and controlling human activities in order to achieve desired goals. Administration involves essential activities of the people charged with ordering, forwarding and facilitating the efforts of individuals or groups brought together for desirable purposes. It involves efforts such as decision-making, programming, communicating relevant information, controlling and evaluating various actions.

When the affairs of the people are managed by the individuals, it is called private administration. But when acts of administration are performed by the National, State or local level, it is called public administration. Similarly when the agricultural and allied departments perform agricultural and rural development affairs, it is generally called Extension administration. (Swanson, B.E. and J.B. Claar, 1984)

The Concept of Extension Administration

Agricultural extension involves various activities directed to improve food production and living standards of the people. Extension, therefore, requires direction and control of these activities in order to achieve the desired goals. Thus, extension administration refers to the art of directing, guiding and controlling human and material resources in an extension system.

Administration in extension is concerned mainly with bringing human beings together for the purpose of executing extension functions. Extension administrators should focus efforts towards a desired change. Change can be achieved through meaningful inter and intra-organizational relationships among extension workers and other development agencies. The purpose of extension administration is to obtain results primarily through the efforts/actions of other people assigned to perform specified tasks.

Extension administration is the process through which agriculture and allied departments of the State Government can implement the agriculture and other rural development projects and programmes efficiently by performing the managerial functions of planning, organizing, leading and controlling in a better way.

Thus, the Administration officer of the Agriculture (and allied) Department must be a good administrator as well as manager.

Principles of Extension Administration

According to Sagar Mondal (2018), there are some principles of administration which may be applied in extension administration too i.e. for the Department of Agriculture (and allied) of the State Government. These principles are also called guidelines as the extension administrators in the performance of their job. These are presented below:

- 1. Principles of Hierarchy-** Hierarchy is a system of ranking people or thing one above the other according to status or importance. In an extension organization the members are arranged in a definite subordinate, super-ordinate hierarchy of line positions. Each member knows who his supervisor is and each supervisor knows whom he is expected to supervise.
- 2. Principles of Authority-** Authority is the power to give orders and enforce obedience. In the hierarchy of extension administration each officer hold power to give orders to its subordinate and he should be obedient to his superior.
- 3. Principles of Responsibility with Matching Authority-** The individual should not be burdened only with responsibilities but should also be provided with matching authority. This is important in a decentralized form of administration.
- 4. Principles of Span of control-** Span of control is the number of subordinates one has to supervise. It helps in attaining quality decision. It results in increased effectiveness and efficiency in attaining the organizational objectives. The exact number of subordinates will depend on the nature and function of the organization.
- 5. Principles of Communication-** The performance of any extension administration or organization can be judged on the effectiveness and efficiency of its communication system. Communication is both downward as well as horizontal. Communication ensures common understanding of organizational values and objectives.
- 6. Principles of Organizational Structure-** Like any other organization the extension organization can no longer remain fixed or static. Changes in basic objectives, in size of staff, adjustment in programme emphasis, nature of planning- short term and long term, personnel and financial requirement will have to be made.

Functions of Extension Administration

Luther Gullick denoted the functional elements of administration represented by the acronym POSDCORB. These functional elements may be applied in extension administration.

- P:** Stands for **Planning** - Effective extension work results from planning. Any administrator that does not plan ahead, with specific aims and objectives to be

realized within a specific time, is bound to inhibit performance. It is the function of the administrator to plan the programme of extension such as description of situation, problems, aims and objectives to be achieved, responsibilities of various officers, possible courses of action to achieve the objectives.

Planning helps to (a) avoid waste of resources, (b) facilitate proper allocation and distribution of available resources, and (c) provide a guide to constructive action in the field.

- O:** Stands for **Organizing** - Organizing refers to the arrangement of persons, ideas, materials and other facilities necessary for the performance of functions. Work is assigned to individuals, groups or departments.
- S:** Stands for **Staffing**- This involves the recruitment, selection, development, utilization and accommodation of human resources in the organization.
- D:** Stands for **Directing**- This involves direct face-to-face oversight of tasks assigned to individuals or small groups in order to ensure correct and adequate performance. It is the process of ensuring that policies, administrative procedures and programmes are carried out properly.
- CO:** Stands for **Coordination**- The organization's activities must be coordinated and correlated. Coordination is an essential element in administration and it involves adjustment of the parts to each other. The administrator should coordinate the human efforts and group staff activities in order to obtain the best results.
- R:** Stands for **Reporting**- This function involves appraisal of activities or performance. From time to time, administrators must evaluate themselves, their staff and the system. Evaluation offers the opportunity to determine how well the goals of the extension service are being achieved and the overall performance of the organization. Information and data are gathered from the various units, departments and even individuals in the form of a report. Based on the report, adjustments could be made.
- B:** Stands for **Budgeting**- Budgeting is a process of optimal allocation of available resources to competing needs, so as to achieve set objectives. Some of the objectives are to:
- Plan the policy of an organization
 - Coordinate the activities of an organization so that each is part of the integral whole
 - Control each function so that the best possible result may be obtained, and
 - Evaluate the activities of an organization.

The budgeting process creates a formal planning framework and gets people involved in deciding what is to be done in the future. It fosters coordination and communication, and promotes efficiency in operating an organization. Budgeting makes

people aware of the cost of undertaking a specific activity or project.

Difference between Public and Private Administration

S. No	Public Administration	Private Administration
1	Bureaucratic in nature	It is business like
2	It is political	It is non-political
3	It is characterized by redtapism	It is generally free from it
4	Finance is in the hand of legislature	Finance is under control of administrators
5	More closely regulated by law and rule	It is less regulated than public administration
6	Ruling motive is not for profit of the government	Profit motive is the ruling motive of business
7	It is generally uniform in its application without any biasness or discrimination	It may give favoured treatment to particular categories of their customers

Monitoring and Evaluation

Monitoring: Concept and Definition

The word monitor is derived from Latin word meaning to warm. In simpler words, monitoring means to keep a watch on what is happening at operational level of any programme. It involves collection and analysis of information. Monitoring helps ensure the implementation of extension programmes in accordance with their design and takes into account the interests of various stakeholders.

Monitoring simply means to keep a watch on what is happening. Monitoring is generally done at the operational level and involves collection and analysis of information.

It is a process of assessing/ analyzing progress of a programme based on predetermined indicators and objectives of programme.

The monitoring of extension activities consists of timely gathering and analysis of data on the organization. It is done through survey, baseline, meetings, discussions, reporting, structured interview, questionnaire surveys etc.

Evaluation: Concept and Definition

The word evaluation is originally a Latin word 'Valare' meaning to be strong or valiant. Evaluation means assessing the worth of certain things, objects, persons, processes, achievements and the like. A comparison is made with the standard to find out deviations. Evaluation provides necessary feedback information about performance of an extension programme.

Evaluation is a periodic assessment of the relevance, performance, efficiency, and impact of the project in the context of its set objectives. Evaluation is the comparison of the situation before and after a development programme has operated with an area for a predetermined period.

- Evaluation in its broadest sense means judging the value of something.
- Evaluation may be defined as a process of systematic appraisal by which we determine the worth or value of a programme.
- Extension evaluation is the process of determining how well the desired behavioral changes have taken place or taking place because of extension education efforts.

Difference between Monitoring and Evaluation

S. No	Monitoring	Evaluation
1	It is continuous or regular process- throughout the life of the programme.	It is occasionally or periodic process- before implementation, Mid-term, at the end or beyond the programme period
2	It measures efficiency- activities, outputs, assumptions.	It measures effectiveness- long term impact and sustainability
3	Know the progress status of programme	Assess the programme results
4	It is symptomatic and serves as early warning system.	It is diagnostic and serves as rectifying system.
5	Conducted by staff within the agency (internal staff).	In most cases external bodies or agencies are engaged in the evaluation.
6	It is done to make minor changes.	To make major changes in programme, strategy and future work.
7	It focuses on present.	It focuses on past and future.
8	It develops motivation.	It develops creativity.
9	It requires management skills.	Leadership skills are more important.

References

1. Mondal, S. (2018). Fundamentals of Agricultural Extension Education. New Delhi: Kalyani Publishers.
2. Swanson, B.E. and Claar J.B. (1984). The History and Development of Agricultural Extension: A Reference Manual, 2nd. FAO of the United Nations, Rome, PP 1 – 19.

M. K. Dubey

Professor

Department of Extension Education

College of Agriculture, JNKVV, Jabalpur

Technology needs a sound understanding of two basic issues: first what is actually meant by the terms “technology” and “technology transfer” and, secondly, how firms in developing countries actually become proficient in using technology.

As to the first, “technology” can be defined in various ways. “Technology transfer”, describes “technology” as “systematic knowledge for the manufacture of a product, for the application of a process or for the rendering of a service. This definition clearly excludes goods that are sold or hired from the ambit of “technology”.

Thus it is the knowledge that goes into the creation and provision of the product or service that constitutes “technology”, not the finished product or service as such.

Consequently, “technology” includes not only “knowledge or methods that are necessary to carry on or to improve the existing production and distribution of goods and services” or indeed to develop entire new products or processes, but also “entrepreneurial expertise and professional know-how”

Even though technology transfer is not a new business phenomenon, the considerable literature on technology transfer that has emerged over the years agrees that defining technology transfer is difficult due to the complexity of the technology transfer process.

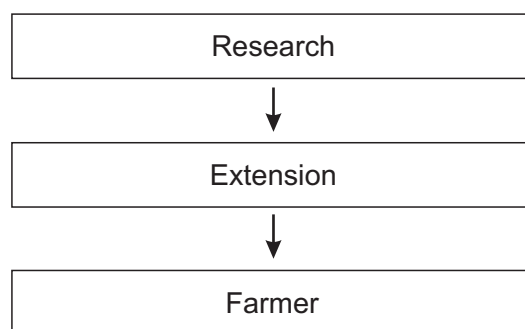
Popular Technology Transfer Models

Since the early 1970s, considering the difficulties and complexities faced by managers of technology transfer projects, researchers, consultants, and practitioners of technology transfer have been proposing models of technology transfer that could facilitate the effective planning and implementation of technology transfer projects. Both qualitative and quantitative models have been proposed. Jagoda (2007) points out that, “Qualitative models often have as their objective the delineation of activities involved in managing TT and the elicitation of factors and issues that can influence the success and/or effectiveness of TT. Quantitative models, on the other hand, aim at quantifying parameters of significance in TT and analyzing them with a view towards minimizing goal incompatibility between the transferors and transferees of technology.” In this paper, emphasis will be on the qualitative models. The mathematics involved in the quantitative models will not be elaborated upon & only their major findings will be presented.

A Brief Overview of Some Qualitative TT Models

(a) Trickle Down Model:

The conventional transfer-of-technology models is the top-down. In the top-down model (Figure 1), technology transfer is a one-way process where technologies developed by scientists are passed on to extension services to be transferred to users.



(Figure 1)

The weakness of this model is that it does not involve farmers in identifying the constraints and adapting the research to local conditions. This model has failed in areas where the farming system is complex.

Particulars	Transfer of Technology model
Research priorities mainly determined by	Needs, problems and perceptions and environments of scientists
Crucial learning is that of	Farmers from scientists
Role of farmer	Beneficiary
Role of scientists	Generator of technology
Main R & D location	Experiment station, lab and green house
Physical features of R&D mainly determined by	Scientists' needs and preferences and research station resources
Non-adoption of innovations explained by	Failure of farmer to learn from scientist, farm-level constraint
Evaluation by	Publications Scientists' peers

The feedback model (Figure 2) is an attempt to overcome the weaknesses of the top-down model. In this model the response of users to the new technology is gathered. However, this feedback is considered to be weak as the users remain passive recipients of technology and the feedback function solely rests with the extension service (Stoop, 1988).

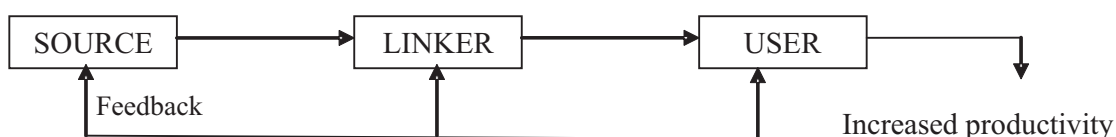


(Figure 2)

(b) Information Linker Model:

The work of Havelock, Rogers and Shoemaker, Gilmore, Farr, and others clearly indicates that personal contact is of primary importance in the technology transfer process. Thus, if we wish to discuss means of effective communication, the concentration must be on the behavioural characteristics of people and their positions in the organizational communications channels. This critical fact has often been overlooked or confused in the literature dealing with linkers and 'linking'. A linker is an individual who is given that label because he links those who fall within one organization to other organizations or groups who supply, possess, or need technological information.

TOT- Information Linker model developed by Jolly et al. (Jolly, J.A., 1975) is attempted in which the Linker i.e. scientist (occasionally) or extension personnel is the key person. The success of technology transfer mainly depends upon this 'Linker', who makes the bridge between the 'source of the knowledge/ technology' and the user of it.



(c) Farmer's FIRST

Farmer FIRST is a concept in which the farmers participate in the research process with scientists. Research questions are found out together with selected farmers or the whole village and villagers' participation in monitoring experiments with scientists. The aim is to find out new ways of doing and bringing in synergy of the stakeholders. The experiments need to be adapted to specific conditions of a farming system and to have the participation of farmers as well as scientists. Especially they must acknowledge local knowledge as a vital element for the development of useful innovations. The role of extensionists is to ensure implementation. Farmers FIRST will create linkages between farmers-researchers and extensionists to support farmers to conduct appropriate experiments selected by them. It will help researchers and extensionists understand and know real needs of villages. In this process, priority does not come from researchers or extensionists but from the end users of results of research and technology development.

Aim:

'Farmer FIRST' aims at enhancing farmers-scientists interface for technology development and application. It will be achieved with focus on innovations, technology, feedback, multiple stakeholder's participation, multiple realities, multi method approaches, vulnerability and livelihood interventions.

Objectives: The specific objectives are:

1. To enhance farmer-scientist interface, enrich knowledge and facilitate continued feedback;

2. To identify and integrate economically viable and socially compatible technological options as adoptable models for different agro-ecological situations;
3. To develop modules for farm women to address drudgery reduction, income enhancement and livelihood security;
4. To study performance of technologies and perception of the farmers about agriculture as a profession in the rural settings;
5. To build network of linkages of organizations around the farm households for improving access to information, technology, input and market.
6. To institutionalize Farmer FIRST process.

Components

The project is conceptualized to deal with focus on:

- (i) Enhancing Farmer – Scientist Interface: Enabling involvement of researchers for continuous interaction with farm conditions, problem orientation, exchange of knowledge between farmers and other stakeholders, prioritization of problems and setting up of research agenda
- (ii) Technology Assemblage, Application and Feedback: Integrating components of technology for application in different agro-ecosystems with focus on innovations and feedback
- (iii) Partnership and Institution Building: Building partnerships involving different stakeholders, development of rural based institutions, agro-ecosystem and stakeholders analysis and impact studies
- (iv) Content Mobilization: Using the platform of the project having institutions as partners to develop specific contents for e-enabled knowledge sharing

References:

1. Anwer, M.M.; SubbaRao, K.V. and Raman, K.V. (1986). Lecture notes and reading material Nineteenth orientation course on Agricultural Research Management. NAARM, Hyderabad
2. Kokate, K.D. and Singh, A.K. (2013). Farmer FIRST Enriching Knowledge - Integrating Technology, Division of Agricultural Extension Indian Council of Agricultural Research, New Delhi. p.37.
3. Jolly, J.A and Creighton J.W. (1975). Technology Transfer and Utilization Methodology. Further Analysis of the Linker Concept. Monterey, California: Naval Postgraduate School. 5531 to 7406
4. Lundquist, G., (2003). A rich vision of technology transfer technology value management. Journal of Technology Transfer, 28(3-4), 284.

5. Mayer, S. and Blaas, W., (2002). Technology transfer: an opportunity for small open economies. *Journal of Technology Transfer*, 27(3), 275-289.
6. Phillips, R.G., (2002). Technology business incubators: How effective as technology transfer mechanisms. *Technology in Society*, 24, 299-316.

Sanjay Singh

Sr. Technical Officer

KVK Rewa

Definitions of Capacity Building

According to Hord “Capacity building refers to activities that improve ability of an organization to achieve its mission or a person's ability to define and realize his/her goals or to do his/her job more effectively”.

Morgan referred to capacity building as improving or upgrading the ability of the person, team and institutions to implement their functions and achieve goals over time.

According to Hilderbrand “Capacity is the mean or the ability, to fulfill a task or meet an objective effectively. It refers to the skills of staff and strength of specific organizations; thus, training staff and creating or strengthening single organizations is equated with capacity building.

In simple words, Capacity building (or capacity development) is the process by which individuals and organizations obtain, improve, and retain the skills, knowledge, tools, equipment, and other resources needed to do their jobs competently. It allows individuals and organizations to perform at a greater capacity (larger scale, larger audience, larger impact, etc). Capacity building has typically been defined as the development and strengthening of human and institutional resources

Levels of capacity building

Capacity building has three levels:

Individual Level

Individuals being the tissues of organizations and societies are considered as the first layer of capacity. With a view to transform and develop societies or organizations want they have to possess skilled, knowledgeable, and experienced individuals. At this level, capacity building requires development and improvement of individuals to build existing knowledge and skills. It also deals with the establishment of conditions in which individuals engage in learning and adapting process.

Institutional/Organizational Level

It is the middle layer of capacity building. It consists of procedures, policies, rules and regulations, systems and culture. However, collective set of individuals' capacity ultimately translate into the organizational/institutional capacity It involves modernization of existing institutions and to support them to form sound policies,

structures, effective management, methods and control revenue. At this level capacity building may improve leadership, governance, mission and strategy, advocacy, management and administration, development and implementation of program, income generation, fund-raising, partnership, evaluation, policy making, marketing, planning and positioning (Linnell, 2003).

Societal Level

The last layer of capacity building is society. In past times, this level has not been given due attention. This was a common concept that after improvement of individuals, society will automatically be improved as desired. This notion is not absolutely true. On one hand transformation and change at this level overhauls and at the same time is driven by those factors that affects individuals and organizations that actually make the society. On the other hand values, customs, traditions, laws and policies, systems and styles of governance and politics in the society are the elements that have direct influence on the individuals and organizations' ability to develop and nourish their capacity in future. Capacity building at societal level involves the establishment of interactive, responsive and accountable public administration that learns from its own actions and feedback from population. These levels of capacity building are equally important and strictly well-knitted and interdependent. If there is an intervention or disturbance on any level, the other level will disturb automatically and their working will be affected.

Definition of Training

Dale S. Beach defines training as 'the organized procedure by which people learn knowledge and/or skill for a definite purpose'.

According to Edwin Flippo, "training is the act of increasing the skills of an employee for doing a particular job".

Lynton and Pareek (1990) stated that training consists largely of well-organized opportunities for participants to acquire necessary understanding and skill. Hence, training is directed towards improving the work performance or job efficiency of an individual or a group.

According to the Michel Armstrong, (2001) "Training is systematic development of the knowledge, skills and attitudes required by an individual to perform adequately a given task or job".

Training plays a crucial role in the advancement of human performance in a particular situation. Training constitutes a basic concept in human resource development. It is concerned with developing a particular skill to a desired standard by instruction and practice. Training provides a systematic improvement of knowledge and skills which in turn helps an individual to perform the given task effectively and in desired manner. Training is a process of acquisition of desired skills, attitude, knowledge and behaviour in the context of preparing for entry into a vocation or improving ones productivity in an organization or enterprise. Training refers to the teaching and learning

activities carried on to help individual/group in acquiring and applying the knowledge, skills, abilities, and attitudes needed by a particular work or job.

Difference between training and capacity building

Training is just an element of capacity building. It usually focuses on acquisition of skills, knowledge etc. for performing a particular work or job competently and efficiently where as capacity building encompasses a whole range of activities designed to empower individuals and institutions (including the analysis of policy contexts, awareness building, institutional adjustments, policy research, policy immersion and more).

Methods of Training

Group Discussion

Group discussion consists of two words –group and discussion. A group, in the context of is defined as a collection of individuals who interact with each other, accept expectations and obligations as members of the group and share a common identity. The word 'discuss' has been derived from the latin root 'discutere', which means to shake or strike. Thus 'discussion' refers to thoroughly shaking up the subject to reach a conclusion or solution of a specific problem.

Group discussion, as the name itself indicates is training or teaching method carried out through group activity by participating individuals. It is an exchange of ideas and thoughts among the individuals of a group on a specific topic. Group discussions may be defined as an activity in which a small number of persons meet face to face and exchange & share their ideas freely in an effort to take a decision on a common issue. Group discussions are a creative and dynamic activity which stimulates reflective thinking among the members.

Purposes of Group Discussion :

1. To solve a problem through group efforts
2. To exchange information.
3. To motivate the members of the group
4. To plan a programme of action.
5. To provide an opportunity to hear the opinions of other persons.
6. To generate new ideas or new approaches to solve a problem.
7. To enable each participant to put across his/her viewpoint.
8. To enhance confidence of participants for expressing their ideas.
9. To provide a deeper understanding of the specific topic or subject.
10. To train individuals.

Characteristics of Group Discussion :

Some of the salient features of group discussion are as follows:

- (i) **Interface:** A basic feature of group discussions is the interaction among various members of the group. They see, hear and communicate with each other orally by paying attention to each other.
- (ii) **Leader and Members:** Group discussions are effective only when there is a group of members and a leader. The leader has to summarize facts and information, integrate them, stimulate thinking and agree to a unanimous solution of the problem. The members of the group become actively related to each other in their respective roles.
- (iii) **Participation:** The effectiveness and efficiency of a group discussion depend, to a large extent, upon the active participation of the members.
- (iv) **Interpersonal Attraction:** Another characteristic of a group discussion is interpersonal attraction. As long as interaction continues, the likes, dislikes, behavior and temperament of members are known to each other. Among them, empathy develops and as such they share problems each others.
- (v) **Pressure to Conform:** In a group discussion, there is always an element of pressure to conform to norms. The pre-defined and established standards are always enforced and followed.
- (vi) **Conflict:** A conflict is a difference or disagreement among the members of the group, which often arise during deliberations and discussions. A conflict is inevitable and usually develops when alternative solutions are present. It can stimulate the members to find new solutions to the problem. Thus, conflict is not necessarily bad. But if it arises due to the political behavior of the members it will have dysfunctional consequences.

Advantages of Group Discussion:

1. It is a democratic method, giving equal opportunity for each participant to express his ideas
2. It appeals to the practical type of individuals.
3. It creates a high degree of interest.
4. The strength of group discussion lies in the fact that the discussants approach the problem with an open mind and suspended judgment in a spirit of enquiry.
5. It is a co-operative effort and not combative or persuasive in nature.
6. Combined and co-operative thinking (Pooling of wisdom) of several persons is likely to be superior to that of isolated individuals.
7. A small group can think together on a problem in an informal fashion and work

out solutions better and faster by using this method than by following rigid parliamentary procedure. (Even parliament and legislatures recognize this when they appoint adhoc committees)

8. Develops group morale. When a group discusses a question and then comes to a decision that is “our” decision for the group and they will see that our decision is carried out. (Group action encouraged)
9. It is a scientific method (employing the reflective thinking pattern).
10. Participants need not be good speakers or debaters.
11. Continued experience with such group discussions improves one's capacity for critical and analytical thinking.

Limitations:

1. Factions in villages may hinder the successful use of this method.
2. The ideal discussants with self-discipline (open mind and suspended judgment) are difficult to find. Also, it is difficult to find an ideal chairman or leader for group discussion.
3. It is not suitable for dealing with topics to which discussants are new.
4. In large groups especially, and even in small groups to some extent, it is difficult to achieve group homogeneity or cohesion.
5. The size of the group has to be limited, because the success of the method is perhaps inversely proportional to the size of group.
6. It is not a good method for problems of fact.
7. It is not suitable for taking decisions in times of crisis or emergency, as it is a slow process.
8. Due to its informal conversational style, the scope for orderly or coherent arrangement of ideas is limited

Procedure of group discussion:

- One of the group members should take up the role of the Chairman
- Size of the group not to exceed 30 persons
- Understand and adopt proper technique
- Recognition of the problem as such by the group
- Listing of as many solutions as possible
- Critical thinking and testing of these hypotheses to find the most appropriate and feasible solution
- Acceptance or rejection of the solution or solutions by the group

- Putting the accepted solution into practice

Role of chairman is to:

- Make physical arrangement for the meeting. Seating arrangement should be such that every one can see the faces of all other members.
- Introduce the members
- Announce the topic and purpose of discussion
- Follow a plan
- Build a permissive climate
- Give or get classification of value statements
- Promote evaluation of all generalizations
- Protect minority opinion
- Try to get balanced participation
- Promote group cohesion
- Remain personally neutral
- Give a final summary of discussion

Role of members is to:

- Talk one at a time. No private conversation
- Supply relevant information
- Contribute one point at a time
- Answer questions directly, specifically and briefly
- Listen attentively
- Don't deviate from the subject
- Open minded-willingness to change the previous opinion, if required
- Support the needed leadership
- Promote group harmony

Brainstorming

Brainstorming is a technique by which a group attempts to find a solution(s) to a specific problem by amassing ideas spontaneously (Osborn, 1953)

In context to training methods, brainstorming is a strategy or a tool of teaching used by the trainer in which maximum or all the students participate by responding or presenting their views on one particular topic. This technique encourages new ideas among learners which cannot be possible under normal circumstances. It creates a

situation in which a group of individuals meet to generate new ideas around a specific domain of interest by removing inhibitions Brainstorming is a group creativity technique through which people are able to think more freely and move into new areas of thought to obtain numerous new ideas, solutions of a specific problem and conclusion. All the ideas are considered and noted down without criticism. These ideas are evaluated when the brainstorming session is over.

Purpose of Brainstorming:

- To focus student attention on or around a specific domain of interest.
- To generate particular ideas.
- To help in acceptance and respect for individual differences.
- To provide opportunity to the learners to take a risk in expressing their ideas and opinions.
- To convince participants /learners regarding acceptance of their knowledge and abilities.
- To obtain the maximum number of ideas relating to a specific area of interest.

Characteristics of Brainstorming:

- It is an intellectual activity.
- Maximum number or all the participants can participate actively.
- Each participant can express their personal view/ideas.
- Each idea is neither absolutely right nor absolutely wrong.
- It involves divergent thinking.

Advantages of Brainstorming:

- It stimulate and provides varied instructional approach.
- Highly motivating.
- Increase task focus.
- Promotes spontaneity and creativity.
- Efficient method.
- Involves participants in ownership of ideas.
- Facilitates creativity.

Steps in Brainstorming

It is a large or small group of activities that encourage the student to focus on a topic and contribute to the free flow of ideas. This process consists of following steps -

- The teacher or trainer starts the session by posing a question, problem or by introducing a topic or specific domain of interest.
- Teacher or trainer as the group leader asks group members to think about the problem and give their ideas. They are advised to find as many solutions to the problem as they can find.
- The participants express possible answers, relevant words, and ideas pertaining to specific topic .
- Their views are accepted without criticism or judgment and further it is summarized on a white board by the teacher.
- These ideas are examined, usually in an open class discussion format.

Methods of brainstorming

1. Nominal group technique

In this method participants are asked to write their ideas anonymously. After that the facilitator collects the ideas and the group votes on each idea. The vote can be as simple as a show of hands in favour of a given idea. This process is known as distillation. It is important that the facilitator be trained in this process before attempting to facilitate this technique.

2. Group passing technique

In this technique each participant in a circular group writes down one idea, and then passes the piece of paper to the next participant, who adds his thoughts. This continues until each participant gets his or her original piece of paper back. The group may also create an "idea book" and post a distribution list or routing slip to the front of the book. This technique takes more time, but it allows individuals time to think deeply about the specific problem.

3. Team idea mapping method

This method of brainstorming follows the method of association. It facilitates collaboration and thus increases the quantity of ideas. It is designed to ensure the participation of all the participants and no ideas are overlooked. . The process begins with a well-defined topic or problem. Each participant brainstorms individually, and further all the ideas are merged onto one large idea map. Once all the ideas are captured, the group prioritizes or takes action.

4. Directed brainstorming

Directed brainstorming is a variation of electronic brainstorming. It can be done manually or with computers. Directed brainstorming works when the solution space (that is, the set of criteria for evaluating a good idea) is known prior to the session. In directed brainstorming, each participant is given one sheet of paper (or electronic form)

and told the brainstorming question. They are asked to produce one response and stop, then all of the papers (or forms) are randomly swapped among the participants.

5. Guided brainstorming

A guided brainstorming session is time set aside to brainstorm either individually or as a collective group about a particular subject under the constraints of perspective and time. This type of brainstorming removes all cause for conflict and constrains conversations while stimulating critical and creative thinking in an engaging, balanced environment.

6. Individual brainstorming

Individual brainstorming refers to the use of brainstorming in solitary situations. It typically includes such techniques as free writing, free speaking, word association, and drawing a mind map, which is a visual note taking technique in which people diagram their thoughts. Individual brainstorming is a useful method in creative writing and has been found to be superior to traditional group brainstorming.

7. Question brainstorming

This process is focused on brainstorming the questions, rather than trying to come up with immediate answers and short term solutions. Theoretically, this technique should not inhibit participation as there is no need to provide solutions. The answers to the questions form the framework for constructing future action plans.

References

1. Brenham, A. (2000). The brainstorming myth. *Business Strategy Review*. 11 (4): 21–28. *doi:10.1111/1467-8616.00154*
2. Dale S.B. (1980). *Training and Development of Personnel*, MacMillan, New York, 1980, 372
3. Flippo, E.B. (1984). *Personnel Management*, New York McGraw Hill; 6th Edition,
4. Hildebrand, M.E. (2008). Capacity for Poverty Reduction: Reflection on Evaluations of System Efforts: in *Capacity Building for Poverty Eradication Analysis of, and Lessons from Evaluations of UN System Support to Countries; Efforts*. United Nations, New York
5. Hord, S.M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. 1997.
6. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=66012>
7. <https://physicscatalyst.com/graduation/brainstorming/>
8. Lynton, R.P. and Pareek, U. (1990). *Training for Development*. Vistaar Publications: New Delhi.

9. Armstrong, M. (2001). A Handbook of Human Resource Management Practice, London Kogan Page, 8th Ed., 2001
10. Morgan, P. (1994) Capacity development — An introduction', in Emerging Issues in Capacity Development. Ottawa: Institute on Governance
11. Osborn, A. (1953). Applied Imagination: Principles and Procedures of Creative Problem Solving. New York, New York: Charles Scribner's Sons.

Seema Naberia

Assistant Professor
 Department of Extension Education
 College of Agriculture, JNKVV, Jabalpur

Extension Teaching

Extension teaching is a process of creating situations that facilitate the learning process. Creating situation includes providing activities, materials, and guidance needed by the learner. In other words, arranging situation in which the things to be learnt are brought to the attention of the learners, their interest is developed, desire aroused, conviction created, action promoted and satisfaction ensured. The ultimate purpose of teaching is not merely to inform people but to transform them to bring about the desired change in their behaviour.

Extension-Teaching Methods

According to Leagans (1961) Extension teaching methods are the devices used to create situations in which communication takes place between the instructor and the learner.

The extension-teaching methods are the tools and techniques used to create situations in which communication can take place between the rural people and the extension workers. These are the methods of extending new knowledge and skills to the rural people by drawing their attention towards them, arousing their interest and helping them to have a successful experience of the new practice. A proper understanding of these and their selection for a particular type of work are necessary.

Individual Contact Method

Extension methods under this category provide opportunities for face-to-face or person-to-person contact between the rural people and the extension workers. This method is followed when the number of people to be contacted is less and very effective in teaching new skills and creating goodwill between farmers and the extension workers. Examples: farm and home visit, farmers' call etc.

Advantages:

- (i) Useful in rapport building
- (ii) Facilitates transfer of technology
- (iii) Facilitates gaining firsthand knowledge of farm and home
- (iv) Easy to obtain feedback information
- (v) Increases effectiveness of group and mass methods

Limitations :

- (i) This method is time consuming and relatively expensive
- (ii) Has low coverage of audience
- (iii) Possibility of biasness, extension agent may develop favoritism towards some persons

Group Contact Methods

Under this category, the rural people or farmers are contacted in a group. These groups are usually formed around a common interest. This method is adopted when it is necessary to communicate with a number of people at the same time. Group participation and formation of group opinion are important. The size of a small group may be from 15 to 25, a medium group from 25-50 and large group from 50-100 persons. Examples: Result demonstration, method demonstration, group meeting, small group meeting, study tour etc.

Advantages:

- (i) Facilitate the extension agent to have face to face contact with a number of people at a time
- (ii) Can reach a targeted audience
- (iii) Less expensive than individual method due to more coverage
- (iv) More effective than mass method in stimulating action
- (v) It offers more opportunities for interaction and feedback

Limitations :

- (i) Wide diversity in the interest of group members may create a difficult learning situation
- (ii) Requires understanding of group dynamics and skill of the extension agent
- (iii) Vested interests, caste groups and village factions may hinder free interaction and decision making by the group members

Mass Contact Method

In this method, the extension worker has to approach a large number of people for disseminating new information and helping them to use it. This can be done through mass-contact methods conveniently. These methods are more useful for making people aware of the new agricultural technology quickly.

Advantages:

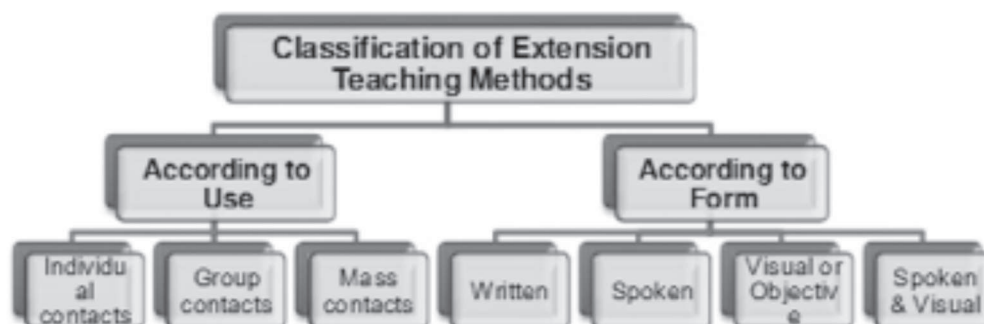
- (i) Very effective for creating general awareness amongst the people
- (ii) Helps in transferring knowledge and forming and changing opinions
- (iii) Large number of people may be communicated with in a short time

(iv) Less expensive due to more coverage

Limitations :

- (i) Less extensive method
- (ii) Little scope for personal contact with the audience
- (iii) Small control over the responses of the audience
- (iv) Difficulty in getting feedback information and evaluation of results

Classification of extension teaching methods



I. According to use

One way of classifying the extension methods is according to their use & nature of contact. The teaching methods taken up in extension may be classified according to use as follows:

Individual contacts	Group contacts	Mass contacts
(i) Farm & home visits	(i) Method demonstration	(i) Print media (viz. Newspapers, magazines, leaflets, posters, pamphlets, circular letters bulletins)
(ii) Office calls	(ii) Group meetings	(ii) Electronic media (viz. Radio, television, cell-phones)
(iii) Farmer's call	(iii) Conferences, seminars, & workshops	(iii) Internet-based media
(iv) Personal letters	(iv) Small group training	(iv) Exhibitions, fairs
(v) Adaptive or minikit trial	(v) Field day or Farmers' day	
(vi) Farm Clinic	(vi) Study Tour	
(vii) Flag method		
(viii) Result demonstration		

II. According to form

Extension-teaching methods are also classified according to their forms, the classification is as follows:

Written	Spoken	Visual or objective	Spoken and visual
(i) Bulletins	(i) General & special meetings	(i) Result demonstration	(i) Method demonstration
(ii) Leaflets, folders	(ii) Farm & home visits	(ii) Demonstration, posters	(ii) Meetings
(iii) News articles	(iii) Official calls	(iii) Motion-picture or movies, charts	(iii) Result demonstration, Meeting involving motion pictures, charts and other visual aids
(iv) Personal letters	(iv) Telephone calls, Radio	(iv) Slides & film-strips, models, exhibits	(iv) Television

Farm and Home Visit

Farm & home visit constitutes the direct or face-to-face contact by an extension professional with the farmer or the members of his family. During these visits, information is exchanged or discussed. The visits may be to get acquainted with the problems of the farmers. Such visits provide an opportunity for a two-way communication.

Objectives :

1. To get acquainted with and gain confidence of farmers and homemakers
2. To obtain and or give firsthand information on matters relating to farm and home
3. To advise and assist in solving specific problems, and teach skills
4. To sustain interest

Advantages :

- ❖ Provides extension worker with first-hand knowledge of farm and home conditions, and the view points of farm people
- ❖ If made on request, the farmer or home –maker is likely to be ready to learn
- ❖ The ratio of "takes" (acceptance) to "exposures" (efforts) is high
- ❖ Builds confidence between the extension worker and the farmer
- ❖ May increase greatly the effectiveness of group methods and mass media
- ❖ Contributes to selection of better local leaders, and mass media
- ❖ Contributes to selection of better local leaders, demonstrators and co-operators
- ❖ Develops good public relations
- ❖ Useful in contacting those who do not participate in extension activities and who are not reached by mass media

Limitations of Farm and Home Visit:

- ❖ Only limited number of contacts may be made
- ❖ Time consuming and costly method
- ❖ Attention may be concentrated on a few big and progressive persons; neglecting the large number of small, marginal, tribal farmers; landless labour and backward people which may prejudice them

Personal letter

Personal letter is written by the extension agent to a particular farmer or a homemaker in connection with extension work. This should not be regarded as a substitute for personal contact.

Objectives :

1. To answer to queries relating to problems of farm and home
2. To send information or seek cooperation on important extension activities

Adaptive or Minikit Trail

Adaptive or minikit trail is a method of determining the suitability or otherwise of a new practice in farmer's situation

Objectives or Purposes:

1. To test a new and promising practice under the resources, constraints and abilities of the farmer
2. To find out the benefits of the new practice in comparison to the existing one
3. To build up confidence of the extension agents, research workers and farmers
4. To act as a precaution against insignificant, faulty or hasty recommendations

Advantages:

- ❖ Avoids the pitfalls of hasty recommendation or adoption of new practices
- ❖ Constitute the first step towards the spread of a new practice after thorough testing
- ❖ Obviates the technicalities, difficulties and delays involved in laying out regular trial plots, and analyzing the results statistically
- ❖ Builds confidence of the extension and research workers on the one hand and of the farmers on the other, in the utility and feasibility of a new practice

Limitations :

- ❖ Being scattered, the trails may suffer from lack of adequate supervision of the extension agent

- ❖ Satisfactory results depend on the clarity of objective and careful selection of the practice and the farmers
- ❖ Difficult to serve suitable co-operators sometimes
- ❖ Risk of failure of a new practice resulting in financial loss to the co-operating farmer
- ❖ Conclusions may not always be unassailable because of the lack of statistical analysis of the data



Result demonstration

Result demonstration is a method of motivating the people for adoption of a new practice by showing its distinctly superior result. It is a method of teaching designed to show by example the practical application of an established fact, or group of related facts.

It is a way of showing people the value or worth of an improved practice whose success has already been established on the research station, followed by district trails or observation plots.

In this method the new practice is compared with the old one so that the villagers may see and judge the results for themselves. Such demonstration requires a substantial period of time and records need to be maintained.

Objectives or Purpose:

- 1 To show the advantages and applicability of a newly recommended practice in farmer's own situation
- 2 To motivate groups of people in a community to adopt a new practice by showing its result
- 3 To build up confidence of the farmers and extension agents
- 4 To develop innovation leadership

Advantages:

- ❖ Gives the extension worker extra assurance that recommendation is practical and furnishes local proof of its advantages
- ❖ Increases confidence of farmers in extension worker and his recommendations
- ❖ Useful in introducing a new practice
- ❖ Contributes to discovery of local leaders
- ❖ Provides teaching material for further use by extension worker

Limitations :

- ❖ Need more time, energy and funds for extension work
- ❖ Unsuccessful demonstrations may cause some setback to extension work
- ❖ Difficult to find good demonstrators who will keep records
- ❖ Teaching
- ❖ Value frequently destroyed by unfavorable weather and other factors
- ❖ Few people see the demonstration at the stage when it is most convincing
- ❖ Unsuccessful demonstrations may undermine the prestige of extension and entails loss of confidence

Group Contact Methods**Method Demonstration**

A method demonstration is given before a group of people to show how to carry out an entirely new practice or an old practice in a better way. It is essentially skill training, where the emphasis is on effectively carrying out a job, which shall improve upon the result. It is the oldest form of teaching

Objectives:

- ❖ To teach skills and stimulate people to action
- ❖ To get rid of inefficient or ineffective movements
- ❖ To improve upon the result by doing a job in a better way
- ❖ To build up learner's confidence and satisfaction on the practice

Advantages:

- ❖ Peculiarly suited in teaching skills to many people
- ❖ Seeing, hearing, discussing and participating in a group stimulates interest and action
- ❖ The costly trial and error procedure is eliminated

- ❖ Acquisition of skills is speeded
- ❖ Builds confidence of extension worker in himself, and also confidence of the people in the extension teacher, if the demonstration is performed skillfully
- ❖ Simple demonstrations readily lend themselves to repeated use by local leaders
- ❖ Introduces changes of practice at a low cost
- ❖ Provides publicity material

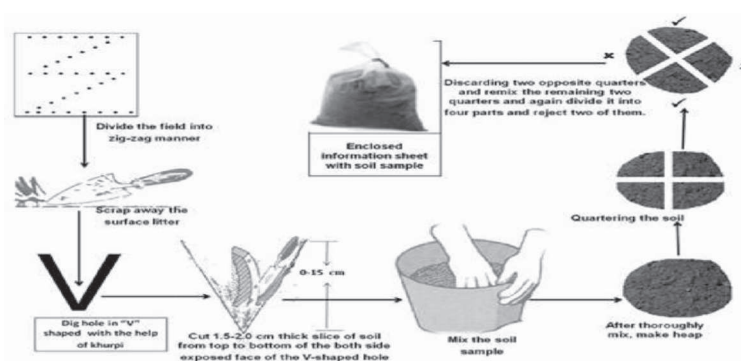
Limitations :

- ❖ Suitable mainly for practices involving skills
- ❖ Needs good deal of preparation, equipments and skill of the extension agent
- ❖ May require considerable equipment to be transported to the work place
- ❖ Requires a certain amount of showmanship not possessed by some extension workers

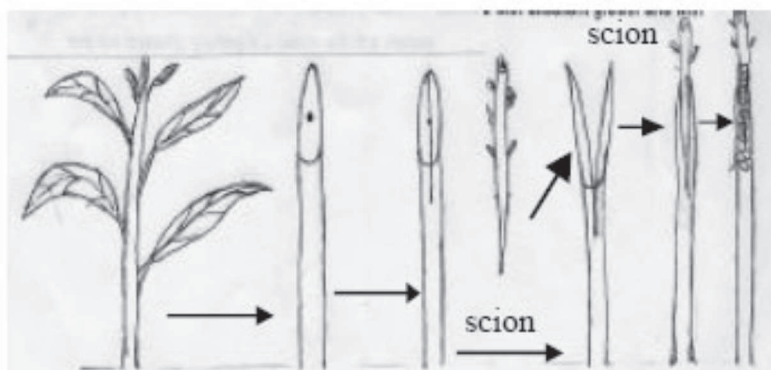
Important Tips for Conducting a Good Demonstration

- (i) The demonstrator should encourage the audience and see that people understand learn to do what is being demonstrated.
- (ii) Before starting the actual working, he should tell the audience: what is being demonstrated?
- (iii) Tell the audience, especially the interested farmers, the importance of the practice being demonstrated.
- (iv) Help the audience to grow through the steps of demonstration so that they can repeat the process themselves without further help.
- (v) Invite questions and create an atmosphere that the audience may clarify its doubts.

A demonstration should be well-prepared in the subject himself, and should take the help of his colleagues and teachers, whenever necessary.



Soil Sampling Procedure



Grafting in mango

Result & Method Demonstration

S.N.	Result demonstration	Method Demonstration
1	It shows the superior result and worth of a practice.	It teaches to carry out a new practice or an old practice in a better way.
2	It can motivate a large number of people.	It is a skill training practice and develops the skill of an individual farmer.
3	It is time consuming and long duration process.	It is less time consuming process.
4	It is based on the principle of seeing is believing.	It is based on the principle of learning by doing.
5	It requires more time, energy and fund	Comparatively less time, energy and fund are required.
6	Purpose is to make people convinced.	Purpose is to make people skilled.
7	Comparison with old practice is necessary.	No comparison in necessary.
8	It shows the end result/outcome.	Its shows how to use a practice.

Group Meeting

Group meeting is a method of democratically arriving at certain, decisions by a group of people, by taking into consideration the member's points of view.

Objectives:

- ❖ To prepare a favorable climate for discussion and help in better understanding of the problem by pooling the knowledge and experience of a number of persons
- ❖ To facilitate in – depth discussion by involving a small number of participants
- ❖ To generate new ideas and methods, and select the rational ones through group interaction. To help formation of opinion about a specific issue
- ❖ To develop a favorable attitude and commitment for action through group involvement
- ❖ To act as a safety valve for reducing tension

Advantages:

- ❖ Reaches a large number of people
- ❖ Adopted to practically all lines of subject matter
- ❖ Recognizes basic urge of individuals for social contacts
- ❖ Promote personal acquaintance between extension worker and village people
- ❖ Supplements many other extension methods
- ❖ Has great news possibilities and public value
- ❖ Influences changes in practice at low cost

Limitations:

- ❖ Requires understanding of group dynamics and skill of the extension agent
- ❖ Village factions may hinder successful use of this method
- ❖ Group members must have some self-discipline
- ❖ A slow process and may not be suitable in crises and emergency situation

Workshop

It is essentially a long meeting of one day to several weeks involving all the delegates in which the problems being discussed are considered by delegates in small private groups. There must be a planning session where all are involved in the beginning.

- ❖ It includes lectures, individual conferences, and emphasis on working groups.
- ❖ Work sessions arranged under the guidance of consultants.
- ❖ Participants can work on a special problem either individually or as members of groups.
- ❖ Success depends on having well-defined objectives and a homogeneous group vitally concerned with objectives.
- ❖ Problems for discussion are brought in by participants.
- ❖ Managed through a steering committee.
- ❖ There must be summarizing and evaluation sessions at the close.
- ❖ The workshop at the end should produce – report/publication/ visual or any other material objects.

Seminars

Seminars are short term training programmes arranged for a few days-a day or two maximum three days. Seminars are convened to have in depth discussion on a subject from various view points. In seminars there are presentation of papers by various authors related to theme followed by discussions, questions and answers. Participants

are participating in discussions and as a whole seminar help the trainees to broaden their knowledge and outlook. At the end of the session the participants can come out with recommendations.

Advantages:

- ❖ This method helps participants to obtain the views, opinions, research finding etc., of the experts through the papers presented by them. Otherwise it might have taken considerable time for trainees to gather such knowledge by reading books and discussing.
- ❖ Some seminars are forceful and thought provoking. It facilitates participants to change their attitudes and opinions.
- ❖ In seminars, the trainees are given the opportunity of listening to the experts from different fields, but related to the issues in discussion.

Limitations:

Generally the audience for the seminar is too big. The individual attention as in training situation is not possible. Many seminars have just become rituals without giving much thought to the issues. As a result no purpose is achieved by convening seminars. Interactions between participants are very limited.

Mass Contact Methods

Print Material or Farm Publications

Farm publication includes the publication prepared by extension system containing the farm information and used for communicating information to a large number of literate people. Farm publications may be used singly or in combination with other extension methods and are used to give specific recommendations about a practice, such as clean milk production, vaccination schedule, detection of milk adulterants, etc. They are used for communicating general & specific information on a programme of technology or a practice. It is of various types viz. Leaflets, Pamphlets, Folders, Bulletins, Journals, Newsletter, and Circular letters.

General Purpose:

Purpose in writing publications is to communicate information. Therefore the first consideration is the audience. If writing for a scientific paper, one would use a vocabulary and style different from what one would use when writing for the general public.

(a) Pamphlets

A pamphlet is an unbound single sheet of paper that is printed on both sides, printed in colours with action photographs, giving full information about a topic in greater length than in folders or leaflets. Pamphlets are an important way of getting information to the community. Pamphlets are very useful especially in areas where there is no easy access to newspapers and radio.

(b) Folder

Folder is a single sheet of paper folded once or twice and open material is presented in sequence and make sure this sequence appeared in finished folder.

(c) Bulletin

A bulletin is a publication with a number of pages, with the primary objective of giving complete information which the intended readers can apply to their own situation. A small price may be fixed on some important bulletins. It conveys large amount of information. Its primary objective is to give information which the reader can apply with own opportunity. Bulletins may be of technical bulletin and popular bulletin.

(d) Leaflet

A leaflet is a single sheet of paper used to present information on only one developmental idea in a concise manner, using simple language. It is made as and when required. Generally it is distributed free of cost.

(e) Booklet

When the extension material exceeds 20 pages and is less than 50 pages, it is called booklet.

(f) Circular letter

Circular letter gives an intimate personal approach to the extension message. This is an effective method to convey information of a common interest to a large number of literate people at one time by the extension agent. Circular letters are more easily and quickly prepared and also economical. These are very effective if it has a personal touch, drawing, cartoon and pictures.

Exhibition

An exhibition is a systematic display of information, actual specimens, models, posters, photographs, and charts, etc. in a logical sequence. It is organised for arousing the interest of the clientele in the things displayed. It is one of the best media for reaching a large number of people, especially illiterate & semi-literate people. Exhibitions are used for a wide range of topics, such as planning a model village, showing high-yielding breeds of cattle and buffaloes, new agricultural implements and the best products of village industries.

Campaign

It is strong educational activity for motivating and mobilizing a community to action, to solve a problem. The duration of a campaign may be for a single day to few months or may be few years. Campaign is used to focus the attention of the people on a particular problem, e.g. milk adulteration, vaccination and prevention of animal diseases, tick control etc. Through this method, maximum number of farmers can be reached in the shortest possible time. It builds up community confidence and involves the people emotionally in a programme.

Radio

It is one of the most powerful media of communication. It is a mass medium of communication and can reach a large number of people at any given time involving the least expense. Extension professionals use the radio for communicating information on new methods & techniques, giving timely information about the control of animal diseases such as foot & mouth disease (FMD), animal pests, weather, market news, etc. For this purpose, talks, group discussions, folk-songs, dialogues & dramas are usually broadcast. There are radio programmes broadcast by All India Radio (AIR), FM (frequency modulated) radio, community radio, etc.

Television

Television is an electronic audio visual medium which provides pictures with synchronized sound. It is very suitable for the dissemination of agriculture & dairy information. It is more useful in teaching to do a specific job. A beginning has been made in India for using this medium for development programmes and it is expected that its use will become more extensive in the coming years. At present, along with the Government-owned channel (Doordarshan), several other private channels are telecasting various kinds of entertainment and developmental programmes to reach the viewers.

Role of Traditional Media in Rural Development

Traditional media means the medium through which the cultural traits passed from generation to generation. It is born and expressed in the dialect of people's culture and has always seemed to entertain, educate and propagate the existing ideas and attitudes. Keeping in view their intimacy with the people at the local levels, folk media channels prove to be powerful tools of communication in the rural society. The traditional media of communication can be effectively used to communicate information and messages for rural development.

Traditional Folk Media

Traditional folk media provides channel for expressing social, cultural, regular, moral, religious and emotional needs of a particular society or community; hence they are the media of people unlike the modern media that are for the people. Folk media channels play a crucial role in the dissemination of information in the rural area. The interest in folk media in promoting rural development has increased in recent times because of limitations of modern methods of communications. The advantages of traditional media in communicating developmental information to rural people are as follows:

- (i) Folk media involves substantial participation of the audience which increases the effectiveness of communication.
- (ii) The audience of folk media can easily identify themselves with these media since they appeal to their emotion.

- (iii) The traditional media attract and sustain the interest of the audience as they contain the elements of entertainment.
- (iv) The folk media can create greater confidence and arouse motivation to change because the communication takes place within the cultural pattern of rural society.
- (v) The folk media are more effective in rural areas which have the problems of illiteracy, resistance to change and inadequate spread of mass media.
- (vi) Folk media are more flexible to accommodate new themes and less costly when compared to electronic media.
- (vii) Folk and modern media can be integrated, complementing each other for effective communication for rural development.

Blending of Traditional Folk Media with modern media

A sensible strategy is one which brings about a mutual reinforcement of the advantages of both traditional and modern media. Both media are simply two different points on the same continuum. Process of integrating traditional folk media and modern media without losing the individual identity is an uphill task. a constructive and comprehensive role of all the personnel involved with mass media, traditional folk media and subject matter is desirable.

Media-Mix for Rural Development

There are many circumstances wherein we have to use a single aid which will serve our purpose, but more often, we have to combine different aids so that we can effectively communicate and transfer information. Thus a proper communication strategy for any rural developmental activity involves an appropriate mix of various media.

Several studies on different media-mix for effective agricultural and rural development strategy have shown the following results:

- (I) The audio-visual aids are effective in dissemination and transfer of improved practices. However, care should be taken to select appropriate aid according to educational activities. The following gives the effective media-mix for the different purposes of communication with regard to adoption of improved farm practices :

Purpose of Communication	Effective Media mix
Increase in knowledge and awareness	Radio + posters + publication (booklet, folders)
Improvement of skill	Method demonstration + flash cards + models
Change of attitude	Slides + information folders + photographs
Change of behaviour to accept improved practices	Result demonstration + Field trips + slides + booklet

(II) About the effectiveness of Media mix studies have pointed out the following combinations as most effective for communication under various circumstances (Singh, Y.P. 1990):

- (a) Printed material + group discussion
- (b) Slides + audio tapes
- (c) Flash cards + lecture
- (d) Television + discussion
- (e) Field trip + slide show

With regard to three media combination the following mix was found to be most effective (Singh, Y.P. 1990):

- (a) Radio + slide show + field trip
- (b) Leaflet + individual contact + group discussion
- (c) Demonstration + individual contact + field visit
- (d) Field trip + demonstration + film
- (e) Individual contact + booklet + demonstration

Media mix strategies in present agriculture

Newspapers, magazines, radio (broadcast, internet, satellite), TV (broadcast and internet), face-to-face farm calls, telemarketing, trade shows, websites, sites for mobile devices, mobile apps, mobile advisory services, e-mail, text messaging, forums, videos, blogs, Facebook, and Twitter. There is a need to use traditional folk media with modern media for more effective communication.

References

1. Mondal, S. (2015). Agricultural Extension. Ludhiana, Punjab: Kalyani Publishers.
2. Dahama, O.P. and Bhatnagar, O.P. (1987). Education and Communication Development, Second Edition, Calcutta, West Bengal: Oxford and IBH Publishing Pvt. Ltd.
3. Ray, G.L. (1996). Extension Communication and Management, Calcutta, West Bengal: Naya Prakash Publications.

N.K. Khare and Seema Naberia

Department of Extension Education

College of Agriculture

JNKVV, Jabalpur

Concept - Information Communication Technology is computer based technology and telecommunication. These are electronic systems for receiving, processing, storing, retrieving, and transmitting. With the availability of the internet, worldwide information is readily available at hand. In the context of globalization and liberalization of the economy, information communication technology assumes great significance for the country.

ICT is a technology that supports activities involving information such activities include gathering, processing, storing, and presenting data. Increasingly these activities also involve collaboration of communication. Hence, it becomes ICT (Information Communication Technology).

Definition

UNESCO- ICT as the scientific technological engineering disciplines of management techniques used to handle, transmit information with men and machine.

Digital video technical glossary- ICT is the computing of communication facilities and features that support teaching, learning and a range of activities in education.

According to SER (1997) - ICT is a term referring to technologies which are being used for collecting, storing, editing and passing information in various forms

Internet -

The Internet is a global network of computer. What make it so useful is the vast amounts of information is stored in these computers and is readily available in fairly organized form. And what makes it so interesting is the great numbers of people, cutting across geographical boundaries, who interact through it, using as well as providing the information it contains. The highly interacting nature and the ability to readily allow each and every user to be consumer as well as a provider of information make the internet unique as a tool in information technology (Laha, 2001, G.L.Ray)

Internet is often referred as 'the network of networks' because it is a global network of computers that are linked together by cables and telephone lines making communication possible. It has no fix boundaries; its limitations imposed only available software and hardware technology. It has been used exhaustively by the scientific and academic communities for many years.

Internet is Used Mainly for The Following Purposes:-

- To log into and browse a network system.
- To exchange e-mail with others.
- To find educational tools.
- To access the business information.
- To get technical support for products we are using.
- To market and sell products.
- To communicate on projects.

Benefits of Internet:-

- (1) **Education** – We can access a whole range of subjects. Student and scientist are most beneficiaries of the internet.
- (2) **Shopping** – We can purchase any goods with the help of online shopping. Browsing through the yellow pages of Internet like “Yahoo and Soho” one can be online with any product or services that is listed on the net.
- (3) **Advertising**- The invention of multimedia, combination of text, still picture, data, audio, video graphics, moving picture and animation has revolutionized advertising in to a powerful marketing tools.
- (4) **Publishing**- All the major news papers in world are already on line. Internet allows watching and reading latest information news, and bulletins.
- (5) **Governance**- Governance are the major business of government is likely to be reduced to the great extent by the use of internets. Public information, which will be of use to every citizen, can be on the net. Indian budget, Government authenticates queries and data required by the people, and economic survey wear available on internet.
- (6) **Financial services**- The transaction like tale credit card, ATM, tale banking, tale insurance and cyber investment are taking place through Internet.
- (7) **Careers**- Internet has career opportunities like Internet librarians, Jaws programmes, hardware and soft ware providers, content providers, internet guides. These are some of the careers.
- (8) **Communication**- The most important benefit of internet is rural and agriculture extension communication. It provides cheap and universal access to all kinds of information available on the latest technology in the field.

World Wide Web (WWW)

The agriculture scientist, students, extension worker farmers and traders can search required subject matter in a very short time, with the browsing of the World Wide Web (WWW).

The crop science information and recommended package of practices is being uploaded by different agriculture institute, research institute, and State Agriculture Universities and the information of development programmes, project, schemes, is being loaded by related departments or agencies, for example, all the related information on Government of India centrally sponsored schemes on “Support to the state extension programmes for extension reforms,” “Mass media support to agriculture extension,” and “Agriclinics and Agribusiness Centers,” are available on MANAGE website www.manage.gov.in. The mega – portal of “dacnet.nic.in” provides information all division, schemas, of Ministry of Agriculture, Govt. of India. This information is very helpful and useful for the farmers, extension workers, scientist and students.

The demand for the produce of Agriculture prices has been growing and farmers are asking for the prices of his/her produce in markets. A number of websites available for provide the prices of agricultural produce on on-line basis. Web browsing for finding the required information is growing at rural information kiosks as well. A number of farmers in remote villages visit the “Village Information Kiosks” to see and read the newspaper on-line.

E-mail

E-mail is the most commonly used communication instrument in the modern world. In all the fields like business trading, agriculture, education, government and private offices, e-mail has replaced paper work like letters and faxes in the working culture of present generation.

In rural area specially agriculture sector, the use of e-mail is very limited due to non-availability of connectivity, lack of technical person, and facilities. Most of the state government have started programmes and projects and connect all their departments and extension workers to provide on line connectivity to the officers and staff.

The Government of India, all the central government offices working under Ministry of Agriculture are given high speed net connectivity. Once all this system is in place the e-mail should become the most powerful and effective extension communication system among the agricultural scientist, extension worker, agriculture industries, marketing and the farmers. Some agriculture agencies are using e-mail as a highly effective tool to send new agriculture technology messages to innovative and progressive farmers.

Application of ICT in Agriculture extension

Kisan Call Centers – The agriculture extension system, which is facing the problems of shortage of manpower, needs to make full use of the growing communication bandwidth to serve the farming community. Keeping in mind these resources, Department of Agriculture, Government of India has launched state wise Kisan Call Center to queries and questions asked by farmers.

The call centers have provided very effective mechanism for farmers service support in a number of services and departments. In India the Kisan Call Centers were established on 21 January, 2004, providing online agriculture information to the farmers across the whole country, by using a toll free number “1800-180-1551”. A Kisan Call Center has a telecommunication infrastructure, computer support and human resources organized to manage effectively, efficiently the problems asked by farmers instantly in local language. The farmers can make a call from any place in the state; the call lands at the concerned state call center and the farmer get the response in his own language from the agriculture graduates at the call center, experts of Agriculture University or research center of the state.

Operational Mechanism of KCC

The Call Centers are Operated in Three Tier System –

Level I- Providing immediate reply to the query asked by farmers. The calls are picked up at KCCs by agriculture graduates who take down the basic information of the farmers and details of the query. The farmer's details, the query and reply are fed simultaneously into the computer database maintained on a server, which is used to generate Management Information System reports. Current study reveals that 98 percent queries are solved at this level.

In case, the level 1 expert is not able to solve the question, he forwards the call to the concerned Level II expert through call conferencing mode.

Level II- The level II experts are the Subject Matter Specialists, located at the Research Institute of Agriculture University, ICAR institute, Departments like Agriculture, Horticulture, Animal Husbandry, Agriculture Engineering, Fisheries etc. Level II experts are available on all working days. Unanswered query at the II level also referred to III level where the experts will examine and answer could be provided to the farmer, through post, telephone, or visit by agriculture experts.

Level III- The level III experts are generally the Nodal Agencies which are identified in consultation with State Department of Agriculture. There are 28 nodal agencies are identified for the KCC in the different parts of the country. These agencies are responsible for monitoring the activities of the call centers. A state level Monitoring Committee is constituted in each state under the chairmanship of Principal Secretary of Agriculture. KCC are an important cyber extension tools for providing two way communication systems between the farmers and agriculture experts.

Advantages of Kisan Call centers -

- (1) It does not involve any cost as toll free number (1800-180-1551) is provided.
- (2) Clarification and additional queries are possible due to direct contact established.
- (3) Problem can be solved quickly in emergent situation, eg.- Severer attack of disease and pest on crop.

(4) Difficult problems are taken to research scientists for solution.

Kisan Mobile Advisory Services (KMAS)-):- The Kisan Mobile Advisory Services was initiated in 2007 by Jawaharlal Nehru Krishi Vishwavidyalaya in Chhindwara district of Madhya Pradesh and covered different district through Krishi Vigyan Kendra in 2008. In Jabalpur district, October 2008 a package of 25000 Short Message Services was purchased having 200 farmers registered along with input dealer and in-service personal. This purchasing of packages from private agencies like CDAC, continuous till 2013 with increment in registered farmer year after year. Then in 2014 KVK started their own M-Kisan portal or farmer's portal having 6000 farmers registered, after that KVK need not to purchase packages from private companies further. At present all district of Madhya Pradesh covered under KMAS programme.

The KMAS under Gramin Krishi Mausam Sewa Project (GKMS) has been delivering information for the farming community of the state by harnessing the information and communication technology based mobile networks. It is one tool where the information is reached at a stroke of a mouse click, and enables the farmer to have information access and face the challenges ahead of them.

KMAS is important as it provides timely and quality need based information on various topics and context of agriculture and allied sector in the right quantity and right form thus empowering the farmers with information and improving their decision making ability which sometimes extension worker lacks. It is operated by KVKs all over the India. It is the extension organization, which provides the pertinent and timely information, particularly through the Kisan Mobile Advisory Services (KMAS). KVKs have registered farmers of the district through mobile Short Message Services (SMS). Once in a week Short Message Services are sent to the registered farmers. Initially the messages were sent in English language but later with feedback and demand for local dialect, messages are now disseminated in local dialect. As for now KMAS is a multi-language support through SMS facility and sending of one SMS in a week based on urgent local needs covering all important component of farming. KMAS provide information on crop production, plant conservation, weedicide, manure, fertilizer, improved variety, vegetable production, fruit production, farm machinery, weather forecasting, Mandi bhav, dairy, poultry, fishery and KVK ongoing programme. Presently, the KMAS is becoming the largest ICT initiative in Madhya Pradesh for providing need based and regular farm advisory services to the farmers in shortest time.

References

1. Chole, R.R., Deshmukh, P.R., Kapse, P.S. (2010). Transfer of Agricultural Technology, Scientific Publishers Jodhpur.(India)
2. Mondal, S. and Ray, G.L. (2009) Entrepreneurship and Rural Development, Kalyani Publishers, Ludhiana

A.S. ChauhanProfessor Extension Education
College of Agriculture Rewa
JNKVV, Jabalpur

Communication:

Communication can best serve in the development and modernizing of India, if it is treated as a science, an art and indeed as a subject-matter discipline related to the other social sciences. It is much more than editing and printing publications, writing news stories, broadcasting radio talks, preparing exhibits and motion pictures or publishing demonstrations.

Communication is the process of transferring an idea, skill or attitude from one person to another accurately and satisfactorily. In other words, it is the sharing of ideas, attitudes or skills, between two or more persons. The main purpose of communication is to influence the behaviour of people exposed.

Meaning of Communication:

Communication is a popular term. When a person gives good public speech, we call him a good communicator. If two people are talking, we say that they are communicating. Many people refer to various media of communication; viz. radio, film or television as communication. None of these is true. Communication has a Latin root 'Communis' which means common. It also requires a degree of commonness between individuals for communication to occur. The purpose of communication is to establish commonness. Communication, thus, refers to the process of sharing information, feelings or ideas in a manner that there is common understanding of meaning, intent and use of the message.

Communication is 'sharing together'. Communication is not a unit, act or event. One does not begin or stop the act by speaking or writing. It gives rise to a chain of reactions. A skillful communicator anticipates reactions and observes them, so as to decide on his next approach. Thus, communication moves back and forth like a game of ball. The sender of message or communicator also becomes the receiver as he watches the reactions of audience in face to face situation. In a series of communication both sender and receiver alternate roles. Continuous exchange of information or dialogue helps in correcting misconceptions and keeping both sender and receiver tuned together.

Definitions of communication :

According to Rogers and Shoemaker (1971), communication is the process by which messages are transferred from a source to receiver.

Van den Ban and Howkins (1988) defined communication as the process of sending and receiving messages through channels which establishes common meanings between a source and a receiver.

Leagans (1961) defined communication as the process by which two or more people exchange ideas, facts, feelings or impressions in ways that each gains a common understanding of the meaning, intent and use of messages. Communication then is a conscious attempt to share information, ideas, attitudes and the like with others.

Hovland says that "communication is the force by which an individual communicator transmits stimuli to modify the behaviour of other individuals."

Hortman, (1966) "Communication is the control of behaviour through descriptive and reinforcing stimuli".

Principles of communication:

The following principles of communication make communication process more effective :

1. Principle of clarity:

The idea or message to be communicated should be clearly spelt out. It should be worded in such a way that the receiver understands the same meaning which the sender wants to convey. There should be no ambiguity in the message. It should be kept in mind that the words do not speak themselves but the speaker gives them the meaning. A clear message will evoke the same response from the other party. It is also essential that the receiver is conversant with the language, inherent assumptions, and the mechanics of communication.

2. Principle of attention:

In order to make communication effective, the receiver's attention should be drawn towards message. People are different in behaviour, attention, emotions etc. so they may respond differently to the message. Subordinates should act similarly as per the contents of the message. The acts of superior also draw the attention of subordinates and they may follow what they observe. For example, if a superior is very punctual in coming to the office then subordinates will also develop such habits. It is said that 'actions speak louder than words'.

3. Principle of feedback:

The principle of feedback is very important to make communication effective. There should be a feedback information from the recipient to know whether he has understood the message in the same sense in which the sender has meant it.

4. Principle of informality:

Formal communication is generally used for transmitting messages and other information. Sometimes formal communication may not achieve the desired results,

informal communication may prove effective in such situations. Management should use informal communication for assessing the reaction of employees towards various policies. Senior management may informally convey certain decisions to the employees for getting their feedback. So this principle states that informal communication is as important as formal communication.

5. Principle of consistency :

This principle states that communication should always be consistent with the policies, plans, programmes and objectives of the organization and not in conflict with them. If the messages and communications are in conflict with the policies and programmes there will be confusion in the minds of subordinates and they may not implement them properly. Such a situation will be detrimental to the interests of the organization.

6. Principle of timeliness :

This principle states that communication should be done at proper time so that it helps in implementing plans. Any delay in communication may not serve any purpose rather decisions become of historical importance only.

7. Principle of adequacy:

The information communicated should be adequate and complete in all respects. Inadequate information may delay action and create confusion. Inadequate information also affects efficiency of the receiver. So adequate information is essential for taking proper decisions and making action plans.

Functions of communication:

Communication has four basic functions:

- 1. Information function:** The basic requirement of adapting and adjusting oneself to the environment is information. There must be some information about what is going on in the environment which concerns the people. The getting or giving of information underlies all communication functions, either directly or indirectly.
- 2. Command or Instructive function:** Those who are hierarchically superior, in the family, society or organization, often initiate communication either for the purpose of informing their subordinates or for the purpose of telling them, what to do, how to do, when to do etc. The command and instructive functions of communication are more observable in formal organizations than in informal organizations.
- 3. Influence or persuasive function:** The sole purpose of communication is to influence people. Persuasive function of communication i.e. to induce people, is extremely important for extension in changing their behavior in the desirable direction.

4. **Integrative function :** A major function of communication is integration or of continuously offsetting any disintegration at the interpersonal or at the organizational level. This helps to maintain individual, societal or organizational stability and identity.

Communication models :

Communication takes place when the sender selects a certain message and gives it a special treatment for transmission over a selected channel to a receiver who interprets the message before taking the desired action. This can be represented through a diagram as follow :



Fig. 1 Communication Model

These are the elements of communication. The explanation may be given as follows:

- (1) **The Sender :** We may call him the communicator/speaker/source. It is the person or apparatus that puts the process into operation. The sender may be the extension message to send, how to treat it, so that his audience - farmers/students/housewives, youths-can follow it, and what channels radio/newspaper/lecture/film show/slides. photographs /specimens to use and which receivers or audience to reach. If he makes a poor choice his communication is likely to fail.
- (2) **The message :** This is the 'information package', the technical know-how for improving farming, livestock, home, village sanitation, health, etc., of the people. it may be a single signal-as on poster or complete information through a pamphlet about the 'package of practices.' instructions, blue print, etc.
- (3) **The treatment of the message:** It refers to the ways in which the message is handled before it is placed on the channel. Its purpose is to make the message clear, understandable and realistic to the audience.
- (4) **The channel :** It is the medium by which the receiver gets the message. It may be anything which carries its message to the receiver. According to Rogers and Shoemaker (1971), communication channel are the means by which messages travel from a source to a receiver. There are number of communication channels such as radio, television, telephone, newspaper, folders etc.
- (5) **The receiver/audience :** The receiver may be a single person when we write a letter; it may be a group of people who read the message, or the masses who listen to the radio, and see television. The more homogenous the audience is, the greater are the chances of effective communication.

Other models of communication process:

Some sociologists, educationists, psychologists, anthropologists and rural sociologists have described the process through various models. Their usefulness lies in the manner in which they are used.

(1) Aristotle's model : It has three elements :



Fig. 2 Aristotle's Model

Aristotle's model has three ingredients or elements which are essential for communication. These can be organised through the person who speaks, the speech he produces and the audience who listens. Such communication takes place in a face-to-face situation, or in direct communication. The speech is either a message, an idea, a thought or a feeling.

(2) Leagan's Model: It has six elements

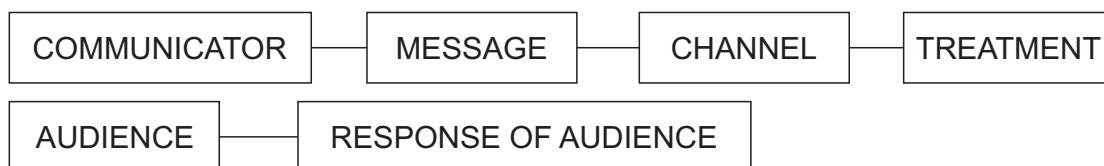


Fig. 3 Leagan's Model

It is more or less designed on the pattern of the Westley and Machean's Model. Though the terminology is different, most of the elements are common. Audience response is the sixth element about which Leagans says that it is vital to the process especially when it is meant to bring about change in people.

(3) Berlo Model: It has also six ingredients.



Fig. 4 Berlo Model

Code is a system of signals for communication. Encode means to put the message into code or cipher. Channel means the medium through which the signals move, the decoder means which converts the message in the code into ordinary language which may be easily understood.

He, further, elaborated that all human communication has some source, some person or group of persons with a purpose. The purpose of the source has to be expressed in the form of message. The communication encoder is responsible for taking the ideas of the source and putting them in a code, expressing the purpose of the source in the form of a message. A channel is a medium, a carrier of message. For communication to occur

there must be somebody at the other end, who can be called the communication receiver, the target of the communication.

Barriers of Communication

There are certain barriers or constraints which restrict the communication process from being a success. For achieving best communication, the innovation must reach maximum members of audience but often it does not reach due to various difficulties or problems or obstructions or barriers associated with some key elements of communication which are as follows.

Barriers pertaining to communicator

1. He disregards the values and customs of the audience due to differences in social status.
2. He has less knowledge about the message itself, its validity and usefulness.
3. Lack of knowledge about people, their need, interest and ability.
4. He has little knowledge of the methods of communication.
5. A failure to select channels appropriate to the objective of communicator.
6. Failure on the part of the communicator to handle channels skillfully.
7. Lack of perception of needs and background of clients.
8. Lack of communicator's empathy with the recipient.

Barriers pertaining to message

1. If the message is not applicable, irrelevant, complex, unattractive and not clear.
2. If message conflicts with the major values of the audience.
3. If the message is unrealistic in forms of their local skills and resources.
4. Message does not have a frame of reference with the previous knowledge.
5. Lack of timeliness of the message.

Barriers pertaining to audience

1. Audience does not have self-interest.
2. He does not understand the importance of communication.
3. He is tradition bound and does not adopt new technology easily.
4. Most of the audience are fatalistic and do not believe in skill and knowledge.
5. Failure to use channel in accordance with the abilities of the audience, written materials can not serve as a useful channels of communication for an audience which is illiterate.

References:-

1. Dahama, O.P. and Bhatnagar, O.P. (1980). Education and Communication for Development. New Delhi, Oxford Publishing co. Pvt. Ltd.
2. Ganesh, R., Mohammad Iqbal, I. and Anandaraja, N. (2003). Reaching the Unreached - Basics of Extension Education. New Delhi, Associated Publishing Company.
3. Khan, P.M. and Somani I.I. (2009). Fundamentals of Extension Education. Udaipur, Agrotech Publishing Academy.
4. Ray, G.L. (2006). Extension Communication and Management Kolkata. Naya Prakashan.

D.K. Jaiswal

Professor
 Department of Extension Education,
 College of Agriculture
 JNKVV, Jabalpur

Meaning and Definition

A journal was originally an account of daily events. The word 'Journ' means 'day'. The habit of keeping diaries or daily account gradually led to the evolution of the word 'journalism'. 'Journalism' is defined as a communication process involving collection, editing, and dissemination of information through different media.

The purpose of journalism is to inform, educate, entertain, and create awareness of the people about various issues.

Agriculture Journalism may be defined as the timely reporting and editing with words, picture, and sound, farm and rural news and information, for the media such as newspapers, magazines, radio and television etc.

Principles of Agricultural (Farm) Journalism

1. **Use of simple language** – Explain the technical term in short and simple sentences, using common words which have concrete meanings. Avoid text book language.
2. **Structure and arrange arguments clearly-** Present ideas in a logical order, clearly distinguishing between the main and the side issues. Presentation must be clear, with the central theme remaining visible so that the whole message can be reviewed easily.
3. **Make main points brief-** Restrict arguments to the main issues, clearly directed towards achieving stated goals without unnecessary use of words.
4. **Keep important information at the top-** Organize the write-up like an inverted pyramid, keeping the most important information at the top, so that if some portion from the bottom is deleted during editing, it won't affect the write-up much.
5. **Use lively pictures and photographs-** The picture and photographs should be simple, bold, with good composition and good contrast of light and shade, so that the message intended to be conveyed is clearly brought out. Put brief but meaningful caption.
6. **Prepare a stimulating write-up-** The presentation should be interesting, inspiring, personal and sufficiently diversified to sustain audience interest.

7. **ABC's** - Accuracy, Brevity and Clarity are fundamentals of good writing.

5W and 1H

Characteristics of a Good Lead

In news writing, the opening sentence or paragraph, known as “lead”, should be a condensed version of the entire story. This is possible if the lead explains what happened, when it happened, who were involved, where and how it happened, and also why it happened. These are further explained.

Ex- A team of scientists headed by Dr. G.K .Koutu under Farmers FIRST of JNKVV conducted research on aromatic rice Chinnor variety in Balaghat M.P during 2019-20 for commercialization, large scale marketing and export. The work was done through technology cum input supported group cultivation and market-led- extension in the country and in the world as a whole.

What- All lead must answer the what question because the basic purpose of news reporting is to inform the people what happened.Ex-research was conducted on aromatic rice Chinnor variety.

Who- The lead should also try to answer the who question, i.e. who were involved with the event. Ex-A team of scientists headed by Dr. G.K .Koutu under Farmers FIRST of JNKVV.

When and Where- The answers to these questions are quite necessary in every lead as these indicate the time and place of occurrence of the event.Ex-during 2019-20in Balaghat M.P

Why- This emphasizes the motive for action in a news event. It is also incorporated when the motive is important, interesting or unusual. Ex- for commercialization, large scale marketing and export.

How- The answer to how rarely provides material for the lead of a news story. Generally, the reply to how, provides a supportive material and is placed in subsequent paragraphs. Ex-technology cum input supported group cultivation and market-led- extension.

Booklet and Pamphlet

Pamphlet

A pamphlet is an unbound single sheet of paper that is printed on both sides, printed in colours with action photographs, giving full information about a topic in greater length than in folders or leaflets. Pamphlets are an important way of getting information to the community. Pamphlets are very useful especially in areas where there is no easy access to newspapers and radio.

Booklet

When the extension material exceeds 20 pages and is less than 50 pages, it is called booklet.

Effective Writing Techniques for Booklet and Pamphlet

1. **Plan before writing-** First of all collect the relevant material. Think before you writing. Pre writing makes it possible to avoid the reiteration and loss of the suitable writing material.
2. **Live writing-** Appreciation of the subject is given through live writing. It should appeal to all the senses of your readers.
3. **Write simple and clear-** Give no room for ambiguity to the readers to confuse or misunderstanding any of your ideas.
4. **Be brief-** People have little time and patience to go through the long texts.
5. **Be specific-** Generalization is always vague and does not help the reader to make decision.
6. **Address the reader-** A direct approach to the reader creates affability. It should not be in the form of an order.
7. **Illustration-** Use appropriate picture. Picture does impart significant effect on readers.
8. **Be accurate-** Collect the accurate information and also state them correctly. Avoid partially correct information. Do not omit important facts.
9. **Sound convincing-** Quote sources and authorities for they are more credible to the people.
10. **Do not Talk Down-** Do not preach. No one likes a superior arrogant attitude. We are to provide information only.
11. **Be practical-** People want practical usable, applicable information. They do not have scholarly interest.
12. **Avoid exaggeration-** State the facts without being carried away by them.
13. **Check the draft-** The writing material must be checked thoroughly for its completeness, conciseness, correctness, effectiveness and logical order of the text.

News Story

A news story is a written or recorded (or occasionally live) article or interview that informs the public about current events, concerns, or ideas.

Procedure for Writing the News Story

1. Be alert in what is happening around you.
2. Know the format and standard of your news paper.
3. Equip yourself with literature and clippings on the subject allotted to you.

4. Establish contacts with people and interact with the sources of information.
5. Collect all the facts you want.
6. Write them in the order of importance.
7. Pick the most important or interesting fact for the lead paragraph.
8. Write the story in an organized manner.
9. Develop the rest of the story.
10. Edit and rewrite.

References:-

1. Jana, B. L. (2014). Agricultural Journalism, New Delhi , ATPA Pub.
2. Singh, V. & Kashyap, S.K. (2013). Agricultural Communication: Opportunities for Sustainable Agriculture and Rural Development, Delhi. Biotech Pub.

Aparna Jaiswal

Department of Extension Education,
College of Agriculture Balaghat
JNKVV, Jabalpur

Technologies are developed as a result of observed lacunae in a current way of doing things or originate from new discoveries about things before innovation. The decision to adopt an innovation is not normally a single, immediate act. It is a decision making process involving a period of time during which an individual goes through a number of mental stages before making a final decision to adopt an innovation. This situation is better understood in terms of stages in adoption and innovation-decision process.

Concept, Meaning and Definition:

Innovation is a word that is derived from the Latin word *innovare*, which means 'into new'. According to Rogers 2003, Innovation is “an idea, practice, or object that is perceived to be new by an individual or other unit of adoption”.

Adoption comes from the old French word *adoptare*, meaning "to chose for oneself". According to Rogers (2003), **Adoption** is a decision of full use of an innovation as the best course of action available.

Communication is a process in which participants create and share ideas, facts, findings and information with one another to reach a mutual understanding.

Diffusion is the “process by which an innovation is communicated through certain channels over a period of time among the members of a social system”.

Difference between Communication and Diffusion

Communication	Diffusion
➤ ‘Communication is derived from Latin word ‘communis’ meaning ‘common’.	➤ The word diffusion is derived from the Latin word ‘diffundere’ which means “to spread out.”
➤ Communication is the interchange of ideas between two persons, in such a way that they act on the existing knowledge to achieve some useful results. The transfer of message through suitable medium performs the communication.”	➤ “Diffusion is the process by which an innovation is communicated through certain channels overtime among the members of a social system.”
➤ Elements of Communication Process:- (a) Communicator (b) Message (c) Channel (d) Treatment (d) Audience (e) Response	➤ Elements of Diffusion Process:- (a) Innovation (b) Communication Channels (c) Time (d) Social System

The Adoption Process

Diffusion occurs through a five-step decision-making process. It occurs through a series of communication channels over a period of time among the members of a similar social system. Rogers' five stages (steps): awareness, interest, evaluation, trial, and adoption (AIETA) are integral to this theory. An individual might reject an innovation at any time during or after the adoption process.

(a) Awareness stage- This is the initial stage wherein the farmer comes to know the existence of the new idea but he doesn't have full information about the idea. At this stage farmer is aware of the idea, but lacks thorough information about it.

(b) Interest Stage- The farmer develops interest in the innovation and seeks additional information about it from any source, which he feels trustworthy. It means that the farmer acquires more information about an innovation like how it works and what its potentialities are.

(c) Evaluation Stage- At the evaluation stage, the farmer makes mental application of the new idea in the present and anticipated future situations and decides whether or not to try it. He judges the effectiveness of the innovation, makes a judgment whether the idea is applicable to own situation and if applied what would be the result.

(d) Trial Stage- The farmers may not take up any new idea on a large scale as he doesn't want to take risk even though the potential of the idea has been proved. The new idea is applied on a small scale to determine its feasibility and applicability in own situation.

(e) Adoption Stage - Being satisfied with the performance of the new idea tested on small scale in his own situation, the farmer uses the new idea continuously on a full scale. It provides the advantage of the innovation and hence the farmer takes final decision and applies the innovation in a scale appropriate to own situation on a continued basis.

Diffusion of Innovations

Theory diffusion of innovations was given by Everett Rogers that explains how, why, and at what rate new ideas and technology spread. Diffusion of innovation theory predicts that media as well as interpersonal contacts provide information and influence opinion and judgment. Rogers argues that diffusion is the process by which an innovation is communicated over time among the participants in a social system.

Components/Elements of the Diffusion process

1. Innovation
2. Communication channels
3. Time
4. Social system

1. Innovation

An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. The "newness" criteria of an innovation may be expressed in terms of knowledge, persuasion or a decision to adopt. An individual becomes aware about objects or events through perception so irrespective of the time period the idea was originally developed, It becomes an innovation for the person when a person becomes first aware of it. The innovation must be widely adopted in order to sustain. For eg.- New varieties of crop, new insecticide, new practices etc.

Perceived Attributes of Innovation

(i) Relative advantage: It is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience and satisfaction are also often the important components. The greater the perceived advantage, the faster the rate of adoption is.

(ii) Compatibility: It is the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters. When a new crop variety suits the agro-climatic condition of farmer shows situational compatibility whereas breed of cow advocated to farmer is in agreement with their beliefs is cultural compatibility.

(iii) Complexity: It is the degree to which an innovation is perceived as difficult to understand and use. In general, new ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings. Ex- Use of mobile application for a farmer becomes complex who is not techno-friendly.

(iv) Trialability: It is the degree to which an innovation may be experimented with on a limited basis. An innovation that is trialable represents less uncertainty to the individual who is considering it for adoption, as it is possible to learn by doing. Ex- seeds, fertilizer.

(v) Observability: It is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt. Preventive measures of diseases are less costly than curative, but the result of it is not so obvious and these technologies are less adopted.

(vi) Divisibility- This is the degree to which an innovation may be experimented with small units. Purchase of tractors and to make use of is a one time major investment. Part of it cannot be purchased and tried in phases although they could be hired.

(vii) Accessibility- This is the degree to which an innovation is readily available with minimum effort.

2. Communication channels

A communication channel is the means by which messages get from one individual to another.

(i) Interpersonal channels - It refers to those which are used for face to face communication between two or more individuals. Interpersonal channels are more effective in persuading an individual to accept a new idea, especially if the interpersonal channel links two or more individuals who are similar in socio-economic status, education, or other important ways. Interpersonal channels involve a face-to-face exchange between two or more individuals.

(ii) Mass media channels - These enable the messages to reach a larger, diverse audience simultaneously in a relatively shorter time. Ex- Radio and T.V.

(iii) Localite channels - They originate within the social system of the receiver. Ex- neighbours, relatives, opinion leaders etc.

(iv) Cosmopolite channels - They originate outside a particular social system. Ex-Extension worker, sales personnel, etc.

Rogers defines homophily as "the degree to which pairs of individuals who interact are similar in certain attributes, such as beliefs, education, social status, and the like". When given the choice, individuals usually choose to interact with someone similar to themselves. Homophilous individuals engage in more effective communication because their similarities lead to greater knowledge gain as well as attitude or behavior change. As a result, homophilous people tend to promote diffusion among each other. However, diffusion requires a certain degree of heterophily to introduce new ideas into a relationship; if two individuals are identical, no diffusion occurs because there is no new information to exchange.

3. Time: The time element involved in diffusion is:-

- (A) The innovation - decision process,
- (B) The innovativeness of an individual or other unit of adoption, and
- (C) Innovations rate of adoption in a system.

(A) Innovation - Decision Process

The innovation – decision process is the mental process through which an individual or other decision making unit passes from first knowledge of an innovation to forming an attitude towards the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision. It comprises of major five steps **(KPDIC)**:-

- (I) Knowledge, (ii) Persuasion, (iii) Decision, (iv) Implementation, and
- (v) Confirmation.(Fig-1)

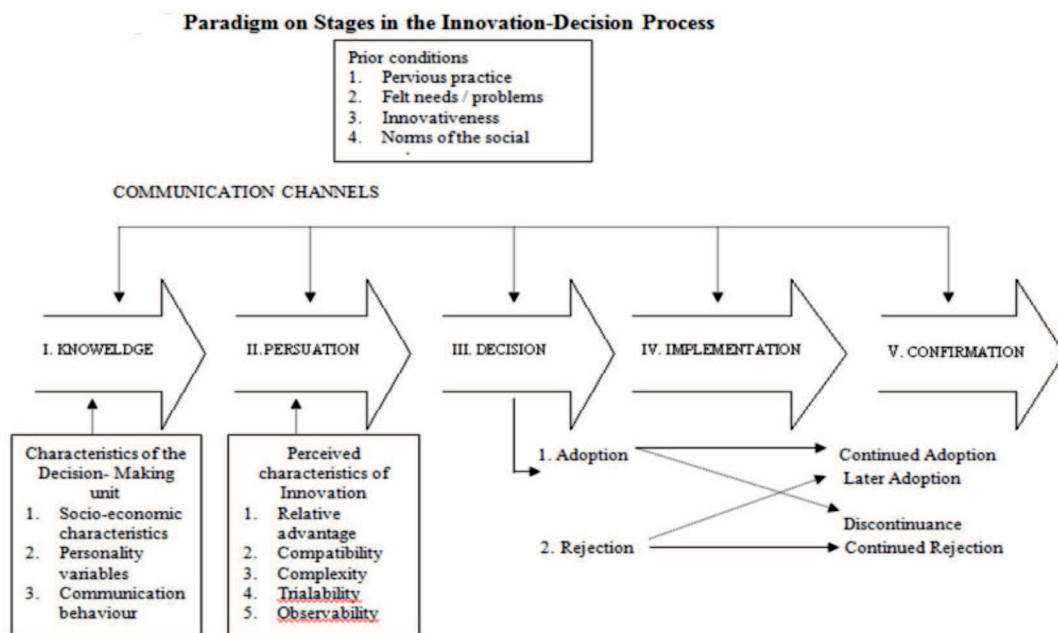


Fig1 - Stages in Innovation Decision Process

(I) Knowledge

Knowledge occurs when an individual is introduced to the existence of an innovation and gains some understanding about its functionality. What, how and why are the important questions in the knowledge phase. According to Rogers, the questions arise regarding three types of knowledge:-

- (a) Awareness-knowledge - It represents the knowledge of the innovation's existence.
- (b) How-to-knowledge-It contains information about how to use an innovation correctly.
- © Principles-knowledge-This knowledge includes the functioning principles describing how and why an innovation works?

(ii) Persuasion

Persuasion occurs when the decision - making unit forms a favourable or unfavourable attitude towards the innovation. While the mental activity at the knowledge stage was mainly about knowing, the main type of thinking at the persuasion function relates with feeling. The individual becomes more psychologically involved with the innovation.

(iii) Decision

Decision occurs when decision - making unit engages in activities that lead to a choice to adopt or reject the innovation. Adoption is a decision to make full use of an

innovation as the best course of action available. Rejection is a decision not to adopt an innovation. The small – scale trial is often part of the decision to adopt, and is important as a means to decrease the perceived uncertainty of the innovation for the adopter. If an innovation has a partial trial basis, it is usually adopted more quickly, since most individuals first want to try the innovation in their own situation and then come to an adoption decision. The vicarious trial can speed up the innovation-decision process. However, rejection is possible in every stage of the innovation-decision process.

Rogers expressed two types of rejections: active rejection and passive rejection. In an active rejection situation, an individual tries an innovation and thinks about adopting it, but later he or she decides not to adopt it. A discontinuance decision, which is to reject an innovation after adopting it earlier, may be considered as an active type of rejection. In a passive rejection (or non-adoption) position, the individual does not think about adopting the innovation at all.

(iv) Implementation

It occurs when the decision - making unit puts an innovation into use. Until the implementation stage, the innovation-decision process has been a firmly mental exercise. But implementation involves evident behaviour change as the new idea is actually put into practice.

Reinvention usually happens at the implementation stage, so it is an important part of this stage. Reinvention is “the degree to which an innovation is changed or modified by a user in the process of its adoption and implementation” (Rogers, 2003).

(v) Confirmation

Confirmation occurs when an individual seeks reinforcement of an innovation - decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation. This stage continues after the decision to adopt or reject for an indefinite period in time. At this stage, the change agents have the additional responsibility of supporting messages to individuals who have previously adopted. As a sequential effect, there is a possibility for "discontinuance". Discontinuance is a decision to reject an innovation after having previously adopted it. There are three types of discontinuances:-

- (a) Replacement discontinuance – It is a decision to reject an idea in order to adopt a better idea that supersedes it.
- (b) Disenchantment discontinuance– It is a decision to reject an idea as a result of dissatisfaction with its performance.
- (c) Forced discontinuance-It happens when farmers are compelled to change.

(B) Innovativeness

It is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system.

All individuals in a social system do not adopt an innovation at the same time. Rather, they adopt in an ordered time sequence, and they may be classified into adopter categories on the basis of when they first begin using a new idea in a system.

The adoption of an innovation over time follows a normal, bell-shaped curve when plotted over time on frequency basis. If the cumulative number of adopters is plotted, it results in an S-shaped curve. The S-shaped curve rises slowly at first when there are few adopters in a time period, accelerate to a maximum when about half of the individuals in the system have adopted and then increases at a gradually slower rate as the few remaining individuals finally adopt. (Fig-2)

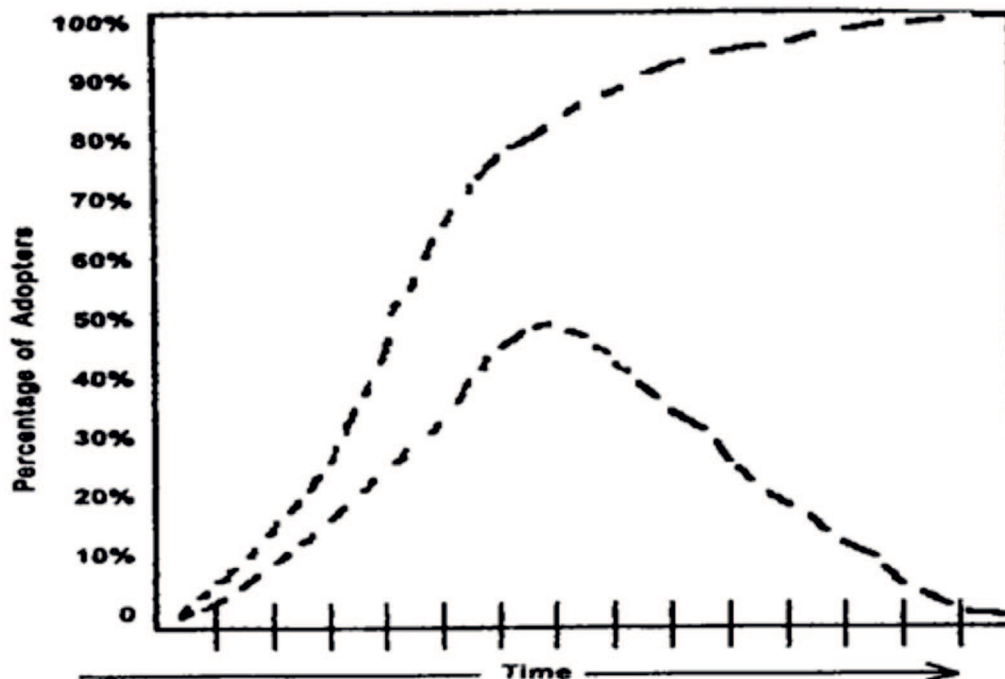


Fig2-The bell shaped frequency curve and the S-shaped cumulative curve for adopter categories

The S-shaped curve is like that of a 'learning curve' as propounded by the psychologists. Each adoption in the social system is in a sense equivalent to a learning trial by an individual. Both of these curves are for the same data, the adoption of an innovation over time by the members of a social system. But the bell-shaped curve shows these data in terms of the number of individuals adopting each year, whereas the S-shaped curve shows these data on cumulative basis.

The distribution of adopters over time closely approaches normality, and may be explained by the statistical concept of normal curve. The distribution of the adopters may be partitioned into five adopter categories by using the mean (\bar{x}) and standard deviation. The area lying to the left of the mean time of adoption minus two standard deviations

includes 2.5 per cent of the individuals who are the first to adopt an innovation and are known as innovators. The next 13.5 per cent between the mean minus one standard deviation and the mean minus two standard deviations to adopt the new idea are called as early adopters. The next 34 per cent of the adopters between the mean of adoption and minus one standard deviation are known as early majority. Between the mean and one standard deviation to the right of the mean are located the next 34 per cent to adopt the new idea, the late majority. The last 16 per cent to the right of mean plus one standard deviation are the last to adopt the innovation the laggards.

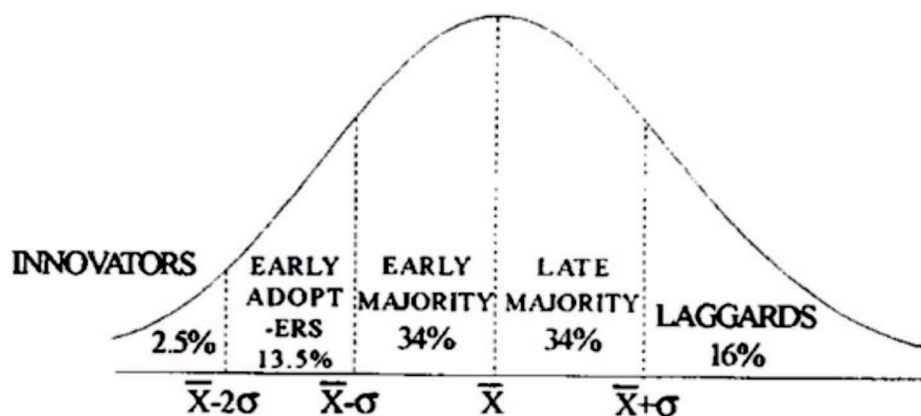


Fig-3 Adopter categorization on the basis of innovativeness

The innovativeness dimension, as measured by the time at which an individual adopts an innovation, is continuous. However, this variable may be partitioned into five adopter categories by laying of standard deviations from the average time of adoption.

- 1. Innovators (Venturesome)** - Innovators are the first 2.5% of the individuals in a social system to adopt an innovation.

Characteristics:

1. Have larger farms.
2. High net worth and risk capital.
3. Have financial liquidity.
4. Willing to take risks.
5. Usually not past middle age.
6. Generally well educated.
7. Have respect and prestige in progressive communities but not in conservative type of communities.
8. Mentally alert and actively seeking new ideas.

9. Their sphere of influence and activity often goes beyond the community boundaries.
 10. They have many formal and informal contacts outside the immediate locality.
 11. They often by-pass the local extension worker in getting information from the originating sources, and may learn about new things even before he does. They sometimes manage to get samples of seeds or chemicals even before they are released for public use.
 12. They subscribe to many farm magazines and specialized publications.
 13. Other farmers may watch the innovators and know what they are doing but the innovators are not generally named by other farmers as "neighbours and friends" to whom they go for information.
- 2. Early adopters (Respectable)** - Early adopters are the next 13.5% of the individuals in a system to adopt an innovation.

Characteristics:

1. Younger than those who have a slower adoption rate, but not necessarily younger than the innovators.
 2. They are not the persons who test the untried ideas but they are quickest to use tried ideas in their own situations.
 3. Have large farms.
 4. Proponents of revolutionary change.
 5. Visionary users.
 6. Higher education than those who adopt more slowly.
 7. High income.
 8. They participate more in the format activities of the community.
 9. They also participate more in government programmes.
 10. This group usually furnishes a disproportionate amount of the formal leadership (elected positions) in the community.
 11. They read papers and farm journals and receive more bulletins than people who adopt later.
 12. They may be regarded as community adoption leaders.
- 3. Early majority (Deliberate)** -Early majority is the next 34% of the individuals in a system to adopt an innovation.

Characteristics:

1. Slightly above average in age, education and farming experience.

2. They take a few more farm journals and bulletins than the average.
 3. They have medium high social and economic status.
 4. Less active in formal groups than early adopters, but more active than those adopting later.
 5. In many cases, they are not formal leaders in the association.
 6. They also attend extension meetings and farm demonstrations.
 7. They are most likely to be informal resources than early adopters and innovators, and so cannot afford to make hasty or poor decisions.
 8. They associate mainly with people of their own community.
 9. They value highly the opinions their neighbours and friends hold about them; for this is their main source of status and prestige.
 10. They are mostly mentioned as "neighbours and friends" from whom the majority of farmers seek information.
 11. They seldom hold position of leadership in a system.
- 4. Late majority (Skeptical)** - Late majority is the next 34% of the individuals in a system to adopt an innovation.

Characteristics:

1. Those in this group have less education and are older than the early majority.
 2. They form the major part of formal organisational membership, although they participate less in such formal groups.
 3. They take fewer leadership roles than the earlier adopters.
 4. They take and read fewer papers, magazines and bulletins, than the early majority.
 5. They do not participate in as many activities outside the community as do people that adopt earlier.
 6. Little financial liquidity.
- 5. Laggards (Traditional)**- They are the last 16% of the individuals in a system to adopt an innovation.

Characteristics:

1. Least education.
2. Oldest.
3. Participate least in formal organisations, cooperatives and government programmes.

4. Tend to focus on “traditions.”

5. Lowest social status.

(C) Innovation's rate of adoption in a system.-

Adoption is an individual process dealing the series of stages one undergoes from first hearing about a product to finally adopting it. Diffusion signifies a group phenomenon, which suggests how an innovation spreads.

Rate of adoption is the relative speed with which an innovation is adopted by members of a social system. There are differences in the rate of adoption for the same innovation in different social system. The rate of adoption is usually measured by the length of time required for a certain percentage of the members of a system to adopt an innovation. It is a system perspective rather than an individual as a unit of adoption.

Individuals who first adopt an innovation require a shorter adoption period in adoption process than others. Qualities of an innovation that affect the rate of adoption include the advantage created by adopting the innovation, the comfort at which the innovation can be adopted into daily life, the capacity of other members of society to see those who have already adopted the innovation and the expense associated with trying the innovation.

4. Social System

It is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organisations and / or subsystems. The social system constitutes a boundary within which an innovation diffuses. It can be affected by norms and the degree to which individual can influence one another.

How to Ponder??	
Adoption Process	AIETA
Elements of the Diffusion of Innovations	ICTS
Innovation - Decision Process	KPDIC
Adopter Categories	IE^2L^2

References:-

1. Cervero, R. M., & Rottet, S. (1984). Analyzing the effectiveness of continuing professional educational: An exploratory study. *Adult Education Quarterly*, 34(3), 135-146
2. Diffusion and adoption National Open University (2008). Retrieved from <https://nou.edu.ng/sites/default/files/201703/AEM%20503%20Diffusion%20and%20Adoption%20of%20Innovations%20ii.pdf>



DEPARTMENT OF EXTENSION EDUCATION
Jawaharlal Nehru Krishi Vishwa Vidyalaya
Jabalpur (M.P.)-482004.

3. King, R. N., & Rollins, T. (1995). Factors influencing the adoption decision: An analysis of adopters and nonadopters. *Journal of Agricultural Education*, 36(4), 39.
4. McPherson, M; Smith-Lovin, L; Cook, JM (2001). "Birds of a Feather: Homophily in Social Networks". *Annual Review of Sociology*. 27: 415–44
5. Ray, G.L. (2017). *Extension Communication and Management*. Kalyani, New Delhi
6. Rogers, E. and Shoemaker, F. (1971). *Communication of innovations: a cross-cultural approach*. Free Press
7. Rogers, E.M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
8. Strang, D. and Soule, S. (1998). Diffusion in Organizations and Social Movements: From Hybrid Corn to Poison Pills. *Annual Review of Sociology*. 24: 265–290